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PRECLINICAL AND CLINICAL STUDY ON

PADARTHAMARAI

(PUNDAREEGA KUTTAM)

(DISSERTATION SUBJECT)

For the partial fulfillment of the
requirement to the Degree of

DOCTOR OF MEDICINE (SIDDHA)

BRANCH III - SIRAPPU MARUTHUVAM

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INTRODUCTION

The Tamil speaking southern peninsular region undertook a systematic study of the nature and its elements from which they had developed a highly systematized medicine which is now known “Siddha Medicine”. Siddha system is well founded under the basic principles of nature and its elements. The Siddha system originated from 18 Siddhars headed by 'Agathiyar'.

Prevention and Treatment are the basic aim of the siddha system of medicine, where as the Siddha system has in addition to the transcendental motivation of that rigor to be called the immortality is the body. Siddha System is a vast and unique system which defines health as a perfect state of Physical, Psychological, Social and Spiritual well being of an individual. The system not only deals with medicine, but with spirituality, righteous way of living, rejuvenation and its main aim is attainment of perfection. This is clearly mentioned in the following verse of Thirumanthiram;

“clkghh mopay; capuhh mopth
jplkglnkaQhdk NruTk khllhh
clkigtshfFk cghak mwpeNj
clkigtshjNjd cah tshjNjNd”

- *jpUkejpuk (724)*

Siddha system of medicine is mainly based on the Thrithodam theory. The thrithodam namely Vatham, Pitham and Kabam circulate in the bodily system in different proportions which helps to maintain the vitality of the body. When these vital humours become abnormal or when their mutual harmony is disturbed it leads to ill-health.

Siddha system is very effective in chronic disorders especially skin diseases and rhematological problems. Siddha system elaborately deals with 18 types of kuttam and their treatments. Among these, Padarthamarai (Pundareega kuttam) is one of the common disease which affects the human beings. That's way. the author has selected the disease Padarthamarai for his dissertation with the following trial medicines.

PARANGICHAKKAI CHOORANAM - INTERNAL

NEERADIMUTHU PASAI - EXTERNAL

Padar Thamarai is one of the commonest skin problems and it needs special attention because of its troublesome itching and recurrence. According to the following verse it is known that the disease is mainly occurs due to the disturbance of Vatham humour,

“thjkyhJNkdpnflhJ”

- Njiuah

Siddhar Yugi, in his text clearly charted out the 18 types of kuttam under the broad heading of Kuttam. In modern science the symptoms and signs of Padar thamarai (Pundareega kuttam) is correlated with Tinea.

AIM AND OBJECTIVES

The main objective of this study is to highlight the therapeutic efficacy of siddha drugs by conducting a clinical trial on disease 'Padar thamarai' with 'Parangichakkai Chooranam' as internal medicine and 'Neeradimuthu Pasai' as external medicine to the scientific community and the sub objectives of my study are:

- To collect various literatures and modern text books as literal evidences regarding the disease PADAR THAMARAI
- To expose the unique diagnostic methods mentioned by Siddhars
- To know the extent of correlation of the disease with age, sex, socio-economical status, habit, family history and Paruva kaalam (Seasons).
- To have a complete study of a disease Padar Thamarai under the heading of Mukkutram, Udalkattugal, Enn vagai thervu etc., in order to evaluate the pathogenesis, pathology of Padar Thamarai.
- To have a detail clinical investigation and to utilize the possible diagnostic tools in the confirmation of the diagnosis and prognosis of the disease.
- To analyse the trial drugs by biochemical studies.
- To study the factors like diet, land, climatic condition and personal hygiene in relation with Padarthamarai.
- To make an awareness among the people about the prevention of the disease.

SIDDHA ASPECTS

PADAR THAMARAI

1. r‰wgG kUjJtk Ehy‰d $wWggb

   - glhjhkiuNehahdJ Rjjkhf NjajJf Fs‰ffhjth‰lk ,LgG› njhil› ,LfF Kjy‰a ,lqfs‰y ntFthf czlhf‰f fhZtJ xU tif Njhy NehahFk.
   - NkYk Kfjij kOgg‰f nfhsSk MzfSfF Kfjj‰y czlhf‰wJ. njhwwf $bait› mj‰f eikrry ,UfFk.
   - MilfshYk› Kfk kOgGk fjj‰fhsYk guTf‰dwd. Neha fzl ,lk r‰tejhtJ fUik e‰wKldhtJ› tukG flb vh‰rrYld fhZk› nrhw‰ar nraAk› nrhw‰ejhy fhejYzlhFk. r‰y gilfs jbjj gidkuggli l Nghy RuRugghf ,UfFk

2. **T. V**. rhkgr‰tk g‰sisatHfs‰d $wWggb

   - Characterized by eruption of inflamed vesicles or scales spreading on the body as an orbicular lotus leaf – **ringworm infection.**
   - The affected area shows reddish brown or mild black coloured patches with well defined specified margins burning sensation with severe itching.

     The meaining of Padar thamarai is mentioned as follows:

     glh - Jdgk› Neha› glUjy
     jhkiu - fkyk› Gzlufk

   - It is a kind of skin disease that spreads like ring worm.

3. r‰f‰rrhuje jgk 2k ghfk itjj‰ar‰ejhkz‰ Ehy‰d $wWggb

   glhjhkiuahdJ Njfjj‰y gy &gqfshf r‰teJ eikrry vLfFk. t‰ahfFUffs Nghyj Njhdw‰ j‰dntLfFk. ehSfF ehs guTk.

4. jdtejh $wWggb

"Mbfdjnjh eJr nrgghahujjr reJfS zlhaj
jlgglf fgiy tzzQ nrheJ ehnghreJ Gzzhy
,bggJ nghWjJ NjhW kQra tuzqfhzy
klggb aida khNj tyjU Gzlhfk"

- *jdtejh*

- Ø The base or margin of patches are thickened
- Ø Burning Sensation is present
- Ø Sometimes they are red in colour
- Ø Oozing is present
- Ø The patches sometimes become lacerated or vesiculo papule

5. khdKUffak Ehyd $wWggb

"eLtd ntSjjy mUF rtjjy
jdT Njhdwy ntkky Nehjy
jhkiu KlNghy nrkKis guty
jbjjy nfhOjjy FUj rnohOfy
tiutY ileJ Gzgly vDkit
jhkiu njhOtd Fwnad nkhog"

- *khdKUffak*

- Ø The patches are white in the center, and red in the margin
- Ø Burning sensation followed by pain is present in the patches
- Ø The patches spread like the thorn of the lotus flower
- Ø The patches are thickened
- Ø Sometimes blood and pus oozed from the affected patches

AETIOLOGY:

1. jU%yhd $wWggb

"tahjAz %thW tsqfa FllqNfs
Rahj fuej Rod Nkfjjhyhwk
gahj kz Zsggy tzbdh nylLk
eahj GOehyha edwjf FllNk"

- Six types of kuttam are caused by kiranthi and megam.
- Eight types are caused by insects in the soil .
- Four types are caused by worms.

2. FUehb $wWggb›

1 “f‰Uk‰ahy tej Njhlk ngUfTzL
Nflf‰yjd g‰h‰Tjidf f‰ukkhf
nghUk‰ tUk thAntyyhq f‰Uk‰ahNy
GOffb Nghy fhZkJ f‰Uk‰ahNy
nrUk‰tUk gTjj‰uqfs f‰Uk‰ahNy
Njfkj‰y nrhh‰f Fllk f‰Uk‰ahNy
JUk‰ tUQ RNuhz‰jq f‰Uk‰ahNy
#lrKld f‰h‰irgghy njho‰y nratNu”

2) “FllkJt‰l fugghd t‰leh#iy
RNuhz‰jjjhy jhJnflLj jbgGzlhFk
kllwNk f‰Uk‰nrdW kUTk NghJ
tifahaf f‰Uk‰Al t‰leh nrdW
FllKld Njfnkyyhk gwfFk NghJ
Fo‰Fo‰ahaf f‰Uk‰a‰dhf nfhsSkGss‰
jllwNt f‰Uk‰Al euhy tej
rfy Fllk t‰lfugghd rhwwyhNk”

The above two verses indicate that skin diseases are caused by micro organisms and worms infestations

3. mfjj‰aH fdk fhzljj‰d gb›

“Nrhej FllnkhL Fiw Nehafs tej
Nrj‰fs kyuhj mUkG nfhajy
jhh‰ej r‰tnreJ tijfs nrajy
jhajeij kdJneheJ Nuhfejh Nd
jhnddw njatUj jida‰o‰jjy
rhhthd ngh‰Nahhfs jikggo‰jjy
fhnddw eejtdk G+Qnrbfs ntlly
fUkklh rhujj‰w fhRNghNy
A+nddw Tlkngyyhk nghlLg nghllh
Aly ntSjJf FiwNehah Aj‰uQr‰eJk”

4. khdKUff aKk gdtUkhW gfHfdwJ›

“kWjj TzTfs kFjAz z y
,aff klffy fUehnrWjjy
kWgG Kjya ntOrrfs jLjjy
kd Gyhy vsS kifgglTz z y
gfy kf Jayy ,uT Jayhik”

5. jdtejh:

“mwtdw tghjQ Nruhfhuk GrffyhYk
Jiwadw njhlhj njhdiw njhllit GrffyhYk
Fiwnfhzl erjj kqif Fykqif aLffyhYk
eiwnfhzl nghNahh jkik eejjJ NgryhYk”

“eejjJ Gwjjahw Nrhkeiy nflg ghffyhYk
cejjJ Ghth n[dkheju ghtjjhYk
rejff fwGkhjh jqfis fUjyhYk
njhejjj Fll Nuhfk njhLfF nkdWiujNjhh KdNdhh”

6. Afkd $wWggb›

“tskgNt kFej c\zejddhYk
kFej rjsjjhY kowrahYk
tskgNt kejjjhy thejahYk
kfjjhd ngzNzhL kUtyhYk
fskgNt fNyrqfs kFjyhYk
nfbahd thffq fsiljyhYk
jskgNt kaUfhfs jtLkzfs
rhjjjw gUfyhy kFqFllk”

“Fllejhd gjndlL tuNt njddw
FUeeij› rteeij kiwNahh eeij
jllejhd Njtijj J}\izf FNuhjk
ntggyhw w&lyhw gujhujij
mllejhdh irahy ilf fyjij
mgfhjj mfj guNjr jdid
tllejhd itjyhw fwgogghy
tejLNk gjndlL FllejhNd”

- Excessive heat and cold, laziness, excessive sleep in day time, unbridled sexual indulgence, robbery etc.These habits are supposed to be the factors which lowers the immune mechanism of the body (iyarkkai vanmai) and makes the body liable to diseases.
- Excessive intake of food items which are hard to digest, imbalanced food and vomiting, frequent intake of food mixed with stone and hair.
- Prolonged mental depression, intention to spoil others, greedy, abusing god and noble people, neglecting orphans and beggars, cursing the elders and soon. These were the causes mentioned by Yugi.

Types of kuttam:

According to Yugi Vaithiya Chinthamani – 800, kuttam has been classified into 18 types.

“Kjjhq Fllejhd gjpndlLfFk
Kdpahd A+fp ehd nrhyyf Nfsha
GjjhFk Gzlhpff FlljNjhL
nghUfpdw tpwNghlff FllkhFk
gjjhFk ghkfFllk› frrhk Fllk
ghpthd fuzFllk› rpFuFllk
fpjjhFk fpUlbzfFllk› mTJkgufFllk›
nfbahd kzlyFllKkh nkdNd
Fllkhk ghg ghpr FllnkhL
Fbykhk tprhrff FllkhFk
tllkhk itahjp FllnkhL
kUtyhq fBg Fll rhkjy
jpllkhe Njjjpuf FllNkhL
rpjJkh› FllQr fhU Flle
JllkhQ RNtjh\le› jdndhnlhffr
Rakghd gjpndlL FllkhrNr”

The eighteen types are:

1. Pundareega kuttam.
2. Virpodaga kuttam.
3. Baama kuttam.
4. Gajasaruma kuttam.
5. Karna kuttam
6. Siguram.
7. Krishna kuttam.
8. Avudhumbaram
9. Mandala kuttam.
10. Abarisa kuttam.
11. Visarchika kuttam.
12. Vibaathika kuttam.
13. Kideeba kuttam.

14. Sarmathala kuttam.
15. Thethru kuttam.
16. Sithuma kuttam.
17. Sathaaru kuttam.
18. Swetha kuttam.

A+f;Kd;tH $wWggb:

Gzlh;f Fllk
"$LNk jhkiua;d G+t;jo Nghy
Ft;eJNk fWgNghL ntSgghFk
NjLNk r;tgG gythzkhFk
j;dTk;f thuhJ nrhida;w gddh
thLNk maa;Dw gjj;ahf;
tUjj k;fTzlhf; NehTkhFk
NghLNk rhuqfs Kfqfs fhJ
Gzlhff Flljj;d GJik jhNd"

- Characterized by eruption of inflamed vesicles or scales spreading on the body as an orbicular lotus leaf.
- Affected part becomes whitish, reddish or blackish in colour.
- Lesions are well defined with intense itching and burning sensation.
- Borders are slightly elevated and spreading in nature.

PROGNOSIS :

Pundareega kuttam is stated as curable type by Siddhar Dhanvantri Vaithiyam

According to the text 'Yugi Vaithiya Chinthamani – 800'.

"Fllejhd gj;ndlb yrhjj;aejhd
$wfNfs t;w Nghlf ghkf Fllk
f;llejhd fr rUkFll NkhL
f;Ulbz Fllk TJkgu FllejhDk
j;llkhe jjj;Uf FlNkhL
nra jjJkh Fllq f;Bg Fllk
jllejhd k;Fejr jhU Fllk
rkf;Ulbz Fllk rhjj;akh nkdNd"

- A+f; itjj;a r;ejhkz; 800

The following ten types are said to be curable.

1. Virpodaga kuttam.
2. Baama kuttam.
3. Gajasaruma kuttam.
4. Krishna kuttam.
5. Avudhumbaram
6. Kideeba kuttam.
7. Sarmathala kuttam.
8. Thethru kuttam.
9. Sithuma kuttam.
10. Sathaaru kuttam.

According to the text 'Dhanvantri Vaithiyam':

"G+z l j j JUt⇩fNshL rjh⇩fk Gz lhfej
jhzL t⇩wNghlk› ghkhTld› rhkjyk› nt z Fllq
c z bU fhf› eej⇩ r⇩jJik ayr Fllk
Ntzba t⇩ahj⇩NahLk gj⇩ndhdWk t⇩h⇩jJffhNz"

The following 11 types are stated as curable types of kuttam.

1. Thethru kuttam
2. Sathaaru kuttam.
3. Pundareega kuttam.
4. Virpotaka kuttam.
5. Baama kuttam.
6. Sarmathala kuttam.
7. Kaaganandhi kuttam.
8. Venkuttam.
9. Sithuma kuttam.
10. Alasa kuttam.
11. Vipaathika kuttam

DIAGNOSIS:

Diagnosis is based upon three main principles. They are;

1. Poriyaal arithal (Inspection)
2. Pulanaal arithal (Palpation)
3. Vinathal (Interrogation)

Physician‟s Pori and pulan are used as tools for examining the pori and pulan of the patient in arriving at a clinical diagnosis of the disease.

Ennvagai thervugal (eight diagnostic tools):

Siddhars have developed a unique method of diagnosing the disease is Ennvagai Thervugal. They are;

1. Naadi (Pulse).
2. Sparisam (Touch).
3. Naa (Tongue).
4. Niram (Colour).
5. Mozhi (Voice).
6. Vizhi (Eyes)
7. Malam (Faeces)
8. Moothiram (Urine)

Clinical approch of Padar thamarai by Ennvagai Thervugal:

1. NAADI (PULSE):

Among the three thodams vatham and pitham are mainly affected in Padar thamarai. Stress and strain will provoke the pitham which may affect the Prasaga pitham which is responsible for the nature of skin, its moisture and complex with erythematous skin lesions. Involvement of vatham may produce itching. Involvement of kabam, skin and its appendix are affected and there may be excessive formation of scales and deformity of nails in chronic stage

I. According to Theraiyar:

“thjkyhJ Nkd¡nflhJ”

Vatham is considered as the main cause which affects the complexion of the skin and strength of our body.

II. According to Dhanvanthri:

The three thodams i.e. vatham, pitham, kabam get deranged and affect nerves, blood, hormones, muscles, skin and causes "Kuttam". This is mentioned in the following verse:

"Kdd;a thjg;jjr r;NyjJkd %dW kqfk
g;dd;Na jhWffhAss eukg;w g;uNtr;jJ
kzz;a ,ujjk jzzh khqf;\e Njhynf LjNj
add;a tddq fhZkhifahw FllNk"

III. According to Jeevarakshamirtham

Due to high intake of food pitham increases and affects samanan, pithakabam, pithavatham, mukuttram. These affected kuttram individually or in combination, affect the body and blood and also affects the path of pithakabam and in turn affects urine and other wastes in our body and cause kuttam finally. The three thodams gets deranged and affect the skin, blood, muscles, bones etc and finally cause kuttam. Worms also take part in the cause of kuttam.

Naadi nadai in padarthamarai

The deranged three thodams in padarthamarai noi is manifested as increased kabha thodam and association of excessive heat with vatha thodam.

2. SPARISAM (SENSE OF TOUCH):

The features of warmth, chillness, dryness, roughness of the skin, oozing, sweating, tenderness, fissures, depigmentation changes in the skin, swelling, emaciation are examined by sparisam.

In Padarthamarai, the skin becomes hyperpigmented, with well-defined borders with central clearing nature.

3. NAA (TONGUE):

Colour of the tongue, dryness, coated tongue, excessive salivation, redness, ulceration, fissure, pallor, yellowish discolouration, malignant outgrowth, taste variations, speech and deviation of the tongue, the conditions of the teeth and gums are to be noted.

In Padarthamarai sometimes tongue may be noticed as flour coated tongue.

4. NIRAM (COLOUR):

Changes in the colour of the skin, teeth, eyes, nails, and lips due to mukkutra derangement are to be noticed, hypo or hyper pigmentation is also to be noted.

In Padarthamarai, skin is hyper- pigmented, erythematous, macular, slightly raised, well defined lesions with centre clearing nature.

5. MOZHI (VOICE):

Examination of mozhi includes clarity of speech, speech disturbances, crying, high or low pitched voice, slurring or incoherent speech, scanning speech, talk associated with hallucination, undue argument, breathlessness, nasal voice or hoarseness of voice, wheezing etc., to be examined.

In Pundareega kuttam, no change is seen in speech.

6. VIZHI (EYES):

The motor and sensory activities of eyes are to be noted. Also any abnormal

7. MALAM (FAECES):

Colour change indicating and mukkutram derangement, hyperemia, ulceration, bluish discolouration, response to pupil, pallor, protrusion, sunken eyes, and sharpness of vision, excessive lacrimation, angle of eyes, subconjuctival bleeding, visual disturbances are to be noted.

In **Padarthamarai,** no change is seen regarding eyes. Colour, froth, consistency, quantity, odour, frequency, constipation, presence of mucus, blood and undigested matter in the stool are to be noticed In **Padarthamarai**, no change is seen regarding malam.

8. MOOTHIRAM (URINE):

It is a special diagnostic method of Siddha. Determination of Neerkuri and Neikuri in moothiram were done.

Neikuri:

Collection of urine for neerkuri and neikuri examination:

Prior to the day of urine examination, the patient is instructed to take a balanced diet and quantities of food must be proportionate to his routine intake. The patient should have no disturbed sleep. After waking up in the morning, the first urine voided

will be collected in a clear wide mouthed glass container and is subjected to analysis of neerkuri and neikuri within 1 ½ hrs. The specimen is kept open in a glass dish or china clay container. It is to be examined under direct sunlight without shaking the vessel. Drip one drop of gingelly oil on the surface and observe keenly the spreading pattern within few minutes and diagnosis is made as follows,

- If the oil spreads like a snake – Vatha neer.
- If the oil spreads like a ring – Pitha neer.
- If the oil remains as such and if floats like a pearl – Kaba neer.
- If the oil spreads like ring in the snake - Thontha neer.
- If the oil spreads like snake in the ring - Thontha neer.
- If the oil spreads like pearl in the snake - Thontha neer.
- If the oil spreads like pearl in the ring - Thontha neer.

In **Padarthamarai,** Thontha Neer was noted in most of the cases.

“mUeJkhw; ujKk mt;Nuhjkha
m/fy myhjy mfhyT+z jt;hejow
Fwws tUej; cwqf; itfiw
Mbfyrj jht;Na fhJ nga
njhU K$hjjf fiyfFlgLeh;d
e;wfFw; neafFw; e;Uk;jjy flNd”.

“muntd ezbd m/Nj thjk
Mo; Nghy gut;d m/Nj g;jjk
Kjnjhj J e;wf;d nkho;tnjd fgNk
mut;yho;Ak Mo;a;y muTk
mut;d KjJk Mo;a;y KjJk
Njhww;a njhej Njhlqfshnk”

Neerkuri:

Voided urine has to be examined, the following characters;

- **Niram (Colour)**
- **Edai (Specific gravity)**
- **Manam (Smell)**
- **Nurai (Frothy nature)**
- **Enjal (Quantity of urine voided).**

“tej eh fhy vil kzk Eiu vQrnyd
iwejaYsit aiwFJ KiwNa”

Apart from these, the frequency of urination, abnormal constituents such as proteins, presence of blood, pus, renal calculus, crystals etc., also to be examined.

In Padar thamarai patients, straw or hey coloured urine is noticed.

Udal Kattugal

Human body is made up of 7 udal kattugal which are important for the structure and function of the body. In case of pundareega kuttam, among the seven udal kattugal (seven physical constituents) saaram and senneer are commonly affected.

LINE OF TREATMENT:

In accordance with the Siddha system of medicine, certain basic principles are followed before starting the specific drug therapy. These principles are initially followed to balance the deranged kutrams i.e., vatham, pitham and kabam. They are purgation, vomiting, and application of drugs in the eyes to neutralize the deranged vatham, pitham and kabam respectively.

1. Purgation: Virechana Boopathy Pills 2 (OD) in empty stomach.

2. Aga Maruthuvam: Parangichakkai Chooranam -5 Gms; Twice a day with honey.

3. Pura Maruthuvam: Neeradimuthu Pasai - For external application.

4. Sirappu Maruthuvam: Patients are also advised to follow pranayamam, yogam and asanams for the speedy cure and prevention of recurrence.

a. Yogam: Yogam is a way of life, an integrated system of education, for the body, mind of inner spirit. Patients were advised to do yoga to bring down their stress and strain. Asanams which are advised to the patients were,

1. Padmasanam

2. Savasanam

3. Gnayiru vanakkam (Surya Namaskkaram)

These asanams helps to prevent and cure skin diseases. These techniques were very helpful in relieving the stress and strain of the patients.

b. Pranayamam:

It is a form of kayakalpa method and by practicing this, one can prevent many diseases. All the patients were advised to do the regular practice of

1. **Omkara pranayamam**
2. **Sleeping pranayamam.**

KAAPU (PREVENTION):

- Take bath daily and avoid bathing in lake, pond.
- Use warm water for bath.
- Use green gram powder or "Nalangu Maa" instead of soap for bath.
- Wash in dresses with disinfectant solution and dry in direct sunlight.
- Avoid stress and strain totally.
- Asked to wear fresh dry and cotton clothes.
- Advised to trim the nails.
- Use antiseptic lotion and padigi like astringent mixed water after shaving.

PATHIYAM:

"gjjpajjpdhNy gyD zlhFk kUeJ
gjjpaqfs Nghdhy gyd NghFk - gjjpajjpy
gjjpaNk ntwwp jUk gzbjhfF Mjypdhy
gjjpaNk cjjpnadW ghh"

- Njiuah ntzgh

During diseased condition and consumption of medicines, diet restrictions or pathiyam should be strictly followed. These are prescribed to normalize the deserved thodams and to potentiate the drugs.

ACCORDING TO PADHARTHA GUNA CHINTHAMANI:

"ngUFQ Nrhs kpWqFk ngUq fkG
tuF fhUld thioapd fhnahL
ciunfhs ghfw nfspwW kd czbby
tpptjhaf fugghD kpFejNj"

- gjhhjj Fzrpejhkzp

DIET:

- Ø Patient was strictly instructed to avoid all the non-vegetarian food items except goat's meat.
- Ø To avoid bitter substances like bitter guard , leaves of agathi and
- Ø Gingely oil, brinjal, jack fruit, maize, flat bean, great pumpkin.
- Ø Salt and tamarind restriction.

KANMA NIVARTHY (EXPIATION)

"NgW a‰sik ,dgk %gG
g‰z‰ rhffhL a‰itahWk fUt‰yikgG"

Kanmam occurs by birth itself. According to Agasthiyar Kanma Kandam - 300 the kanma nivarthy can be attained by the following;

1. Gardening
2. Digging wells for common use.
3. Constructing temples.

MODERN ASPECTS

SKIN

The skin or cutis is very essential to life. The skin is anatomically and physiologically specialized boundary lamina. It is major organ of the body, forming about 8% of its total mass and having an area of between 1.2 to 2.2 m^2. In total thickness ranges from about 1.5 to 4 mm.

ANATOMY

Skin covers the entire external surface of the body including the external auditory meatus and lateral aspect of tymphanic membrane. It is continuous with the mucosa of the alimentary, respiratory and urogenital tract at their respective orifices, where the specialized skin of mucocutaneous junction occurs; it also fuses with the conjunctiva at the lacrimal puncta.

`Structurally skin is a complex and highly specialized as might be expected of the major interspace between the body and its environment. Microscopically it is formed as an intimate association between two distinct tissues;

Keratinized stratified squamous epithelium superficially the "epidermis" and a deeper layer of moderately dense connective tissue, the "dermis".Because of this combination it is within limits a most effective barrier against microbial invasion and dehydration and against mechanical, chemical osmotic, thermal, photic damage.

Epidermis

The epidermis is formed of non-vascular stratified epithelium. Its usual thickness is between 0.07 mm and 0.12 mm. The epidermis is mainly two divisible into two main systems; they are keratinising (or) malpighian system (keratinocytes), which forms the bulk, and the pigmentary system (melanocytes) that produces the pigment. There are five layers in the epidermis.

1. Stratum Germinativum (or) Stratum Basale

This is the deepest portion of the epidermis and is composed of columnar cells placed perpendicular to the skin surface. The whole of the epidermis germinates from this stratum, hence the name stratum germinativum.

2. Stratum malpighii (or) The Prickle Cell Layer

It is superficial to the basal cell layer, and is composed of several layers of polyhydral cells connected to each other by intercellular bridges.

3. Stratum Granulosum

It is superficial to the stratum malpighii. It is composed of flat, fusiform cells that are one to three layers thick. These cells contain irregular, granules of keratohyalin and lysosomal enzymes and cystine rich proteins.

4. Stratum lucidum

It is superficial to the stratum granulosum, is the pale, wavy, looking layer. This layer contains refractile droplets of eleidin.

5. Stratum corneum

This is the most superficial layer, the outer surface of which is exposed to the atmosphere. It consists of many layers of non-nucleated, flattened and cornified cells.

6. Basal lamina (Basement membrane)

The basement membrane acts as an anchor for the epidermis but allows movement of cells and nutrients between the dermis and epidermis.

Dermis

The dermis that is bounded distally by its junction with the epidermis and proximally by the subcutaneous fat. The basis of the dermis is a supporting matrix (or) ground substance in which polysaccharides; the matrix contains two kinds of proteins. They are

Collagen - Which has great tensile strength

Elastin - Which has considerable elasticity

Hair follicles, various types of sebaceous and sweat glands, plain muscle fibres, and sensory end organs like pacinian and adipose tissue are seen in the microscopic section of the dermis.

The dermis contains few cells, which are fibro blasts, mast cells, histocytes (or) macrophages, lymphocytes (or) other leucocytes and melanocytes. In the deeper layer of dermis, then in arterio-venous anastomosis surrounded by sphincter, the group of smooth muscles under autonomic control

Sweat glands

These are found in all areas of the skin. The sweat glands originate as down growths from the dermis. THIS consists of a single unbranched tube that terminates in the form of a coil in the mid-corium. The coil is the secretory segment and is lined by a single layer of epithelial

cells. The duct runs straight upwards from it to the epidermis, which it transverses in a corkscrew manner to open on the surface at the pore. The latter is converted by a loose meshwork of horn cells.

Sebaceous glands:

They are situated in the upper half of the corium. The sebaceous glands are derived from the epithelial cells of the hair follicles and are present everywhere in the skin except on the palms and soles.

They are multilobulated and covered by a connective tissue capsule within, which is a layer of small epithelial cells. As these cells mature towards the centre of the lobules they enlarge, their cytoplasm becoming arranged in a delicate network surrounding globular of fat (sebum). Towards the duct the whole cell disintegrates, lobulating its fat, the glands therefore being classified as a Nolocrine glands.

Apocrine glands:

They occur in the axillae, areola and nipples of breasts, umbilicus, around the anus and the genitalia. The myo-epithelial cells are highly developed and more abundant in these glands. They are specialized sweat glands, and their secretion is odoriferous with a secondary sexual significance.

Hair

Hair is found on almost every part of the body surface except on the palms and the soles, the dorsal surface of the terminal phalanges, the inner surface of the labia, inner surface of the prepeuce and the glans penis. Hair growth and development is under endocrine control.

Hair is made of hard keratin and is analogous to nail. The hair matrix, a layer of specified epidermal cells, capping the papilla, forms it the two structures making up the hair bulb. Melanocytes are present in the matrix and form the pigment of hair. The portion of the hair below the surface of the scalp is known as the hair root. Above the surface of the scalp, the hair is composed of the medulla, cortex and cuticle.

The medulla consists of seven rows of soft keratin, but it is discontinuous (or) even absent in most human hairs. The cortex is the main structural component and is made up of tightly packed fusiform keratinised cells.

Nails:

These are semi-transparent, plates - like horny structures, covering the dorsal surfaces of the distal phalanges of the fingers and toes. The nail is composed of many layers of flattened keratinized cells fused into a homogenous mass.

The anterior border encroaches upon the nail plate as a flattened keratinous, the cuticle and forms a protective barrier against irritants and infection.

Blood Vessels:

The blood supply of the skin originates from a large number of arterioles forming anastamosis in the deepest part of the cortex. From here single vessels run upwards and form a second network in the upper cortex. Finally terminal arterioles ascend into the papillae ending in capillary loops; which drain into connecting venules. The blood is returned to the large veins in the subcutaneous tissue.

Lymphatics:

The skin contains a rich network of lymphatics, which drain into a few larger vessels in the hypodermis.

Nerve Supply:

The nerve supply of the skin consists of a motor sympathetic portion derived from the sympathetic ganglia and sensory spinal portion arising from the dorsal root ganglia. The sympathetic fibres innervate the blood vessel, erector pilorum muscles and apocrine duct, where the fibres are adrenergic and cause contraction.

PHYSIOLOGY

1. Protective Function

Skin protects the penetration of harmful substances and bacterial invasions. The epidermis and subcutaneous fat play roles in the protective functions. Another is to protect against sunlight by synthesis of melanin pigment.

2. Immunological Function

The skin is the front line of the defenses of the body. In essence the defense involves, the protection of antibody - complex, multi hair proteins that bind with the offensive antigens. Langerhan cells probably play a crucial role in the contact sensitization, immuno surveillance against viral infections and neoplasms.

3. Sensory Functions

The skin is richly supplied with nerves and various types of specialized sensory end organs, which provide information regarding environmental changes, so that the body can then adjust its activities accordingly. In some animals, the hair at certain situations have specialized sensory receptors located at the bases of the hair follicles that serve to enhance sensory appreciation.

4. Secretions and Excretion

The skin possesses various types of glands, which pour secretions on the surface. The more important glands are sweat and sebaceous glands. The eccrine glands which are scattered all over the body surface secrete a thin, transparent, watery fluid, known as true sweat; while the apocrine glands secrete a thicker, rather milky and odoriferous solution.

Sweat in its composition consists of 1.2% solids and 98.8% water. The important substances excreted in it are sodium chloride, sodium phosphate, sodium bicarbonate, keratin and a small amount of urea. The skin can also excrete certain drugs administered to the individual, for example mercury, arsenic, iodine etc

The sebaceous glands of the skin secrete sebum, which is composed of fatty acids, cholesterol, alcohols etc. Fatty acids have a mild fungistatic activity. The sebum acts as a lubricant for the drying effects of the atmosphere.

5. Gaseous exchange through Skin

A small amount of gaseous exchange occurs through the skin. In man the amount of Co_2 exchanged through the skin is negligible compared to the amount exhaled from the lungs.

6.Storage Function of Skin

Blood is stored in the rich sub papillary plexus of the dermis, about one litre. The skin is also a good storehouse of ergosterol that is irradiated, by the ultra violet light of the sun and converted into vitamin D.The junction between dermis and hypodermis has a considerable capacity for storing fat and permanent store of subcutaneous adipose tissue. Certain substances like glucose and chloride also acts as a reservoir for topically applied corticosteroids (or) other hormones that absorbed slowly for many days from the skin surface.

7. Endocrine Function

Hair follicles and sebaceous glands are the targets for androgenic steroids secreted by the gonads and the adrenal cortex and melanocytes and directly influenced by polypeptide hormones of the pituitary.

8. Body Heat Regulation

The skin plays the most important role in the regulation of heat loss. It loses heat to the external environment in three ways: by conduction, by radiation and by evaporation. Heat loss by the first two mechanisms takes place when the environmental temperature is lower than that of the skin. Heat loss by evaporation mainly means the amount of heat spent by the body to evaporate the sweat from the surface of the skin. About 90% of the total heat the skin regulates loss of the body.

The heat loss through the skin is regulated by various physiological mechanisms that include the reaction of the cutaneous vessels. The reaction of the smooth muscle fibers of the skin and Perspirations.

9. Absorption

The skin can absorb substances dissolved in fatty solvents like vitamins and hormones. Inflammation greatly increases the skin permeability substances that are completely insoluble in water and lipids do not penetrate.

10. Synthesis of vitamin D

Vitamin D is synthesised in the skin as a result of exposure to ultra violet 'B' (UVB) radiation and, since it is carried in the blood attached to a binding protein to exercise a specific effect at a different site. Vitamin D5 is essential for skeletal development, and it contains antirachitic properties. Vitamin D3 is formed principally in the stratum spinosum and the stratum basale, from the precursor 7 - dehydrocholesterol by way of a provitamin D3 (2, 5).

FUNGI

The importance of Fungi

Fungi were long regarded as primitive or degenerate members of the plant kingdom, but their independence as group is now universally recognized. Since they are incapable of photosynthesizing their own organic food requirements from $C0_2$ and water, they must exist as saprophytes or parasites.

Between 50,000 to 1, 00,000 species are known, some are aquatic, some are marine but a majority is terrestrial. Most fungi are saprophytic and play and importance role in nature by returning to the soil nutrients originally by higher plants. Their ability to transform sugar into alcohol and Carbon-di-oxide, along utilized in brewing and baking. Their capacity for producing antibiotics, for example Penicillin has long been recognized and exploited.

In agriculture fungal pathogens are responsible for losses amounting to perhaps 10% of the world's crops. Fungi can also harm man more directly by producing mycotoxins, by acting as allergens and by direct tissue invasion.

Fungal biology

Fungi are Eucaryotic microorganisms

Sub division:	Ascomycotina
Genus:	Arthoderma
Family:	Gymnoscaceae

Fungi differ form the higher plants in structure, nutrition and reproduction. Fungi and bacteria are like in lacking chlorophyll and therefore being unable to photosynthesize, but differ from each other in many ways. In size, in cytoplasmic and morphologic complexity fungi greatly exceed bacteria.

Fungi

Fungal cell wall is rigid usually composed of chitin, glucan and mannoproteins. The cytoplasmic membrane of fungi contains sterols principally ergosterol, which are the target sites of action for the major classes of antifungal drugs.

Fungi may be unicellular for example; the yeast, or the cellular units may be connected together to form long filaments of **hyphae** as in the common moulds. In the terms of intracellular organization yeast and moulds are essentially similar and certain conditions some yeast may become filamentous and some moulds may grow multiply as yeast. This ability to change their form is known as **dimorphism** and is highly characteristic of some pathogenic fungi, e.g. Blastomycesdermatitidis, Histoplasma Capsulatum.

The hyphae are usually divided into cells by cross walls or septa, whent the interwoven mass of hyphae remaining loosely arranged, it is known as **mycelium.**

This undifferentiated mycelium forms the basic vegetative body or **thallus**and is often inconspicuous. It is the developement of various structures, from or on the hyphae for purposes of propagation perennation that give the characteristic features associated with fungi grown on culture media.

The distinctive surface colours and textures of any moulds are due to the formation in great numbers of minute **spores,** which are capable of being spread easily and thus initiating new growths. Spores differ from species to species.

Reproduction

Fungus reproduces its generation by 2 ways.

Asexual reproduction
Sexual reproduction

Normally the rapid vegetative growth, which follows successful colonization, gives way to the production of a sexual reproduction. Ultimately the loss of nutrient source or the onset of other adverse conditions is accompained by changes appropriate to survival and a low level of metabolic activity leads to sexual reproduction.

1) Asexual reproduction

Vegetative spores (chlamydospores/Arthrospore)
↓
Sporophores (spore bearing hyphae)
↓ Mitotic nuclear division
Asexual spores

Asexual spores vary in size, shape colour and complexity. A fungus may produce more than one type of asexual spore.

Types:

1. Microspore:	Microconidium
2. Macrospore:	Macroconidium
3. Sporangiospore:	Spores borne endogenously
4. Conidiospore:	Spores borne exogenously or conidia

2) Sexual reproduction

Sexual reproduction involves the fusion of two nucluei and subsequent meiosis **reduction division.** Fungi are often **haploid** and meiosis takes place following fusion, except in certain yeast the diploid state is relatively short lived. This stage of life cycle is known as the **Perfect state** or **telomorph.**

According to different methods of asexual reproduction the fungi are classified into four classes.

Zygomycets:	eg. Mucour sp. Rhizopus sp.
Ascomycets:	eg. Arthroderme sp.
Basidiomycets:	eg. Mushroom, Toadstools
Fungi imperfecti:	eg. Candida sp., Microsporum sp.,
(Deuteromycets)	Trichophyton sp.,HistoplasmaCapsulatum.

Classification of disease caused by fungi (Mycoses):

1. **Cutaneous/superficial mycoses**: Infections that involve only the skin and its appendages, eg. Dermatophytosis.
2. **Systemic mycoses:** Fungal infections; that spread via lymphohematogenous dissemination to involve one or more organs, such as lungs, skin, liver, spleen and CNS. eg. Candidiasis.
3. **Endemic mycoses:** Prone to cause disease due to altered host defence.

Definition

Dermatophytosis represents the superficial infection of Keratinized tissue caused by dermatophytes. (Dermatophytes - are related fungi capable of causing skin changes of the type known as ringworm).

History

The study of dermatophytosis has been aided by the superficial nature of its clinical manifestations. These infections were described in the earliest historic accounts. "Tinea" a name that remains today, literally refers to an insect larva (clothes moth) that was thought by the Romans to be the cause of the infection.

In 1800s - The organism responsible for favus cultured.

1910 - **Sabouraud (Father of modern medical mycology) -** classification of dermatophytes and observation are made (clinical and therapeutic)

EPIDEMIOLOGY

Agent Factor:

A. Thedermatophytes represent 39 closely related species in 3 imperfect genera.

1. Microsporum
2. Trichophyton
3. Epidermophyton

B. Depending upon their natural habits dermatophytes may be classified as

1. Geophilic organisms

Adopted for soil habitation sporadically infest human and less pathogenic for humans. Example: Microsporum cookie, N. fulvum, Tinea ajellos.

2. Zoophilic organisms

Primarily infect higher animals but can be transmitted to humans sporadically, eg.

a) Microsporumcanis - Dog, cattle, cat sheep, pigs, rodents, monkeys.

b) Microsporumdistortum - Dog, cat, horse, monkey

Causes severe inflammation.But more readily curable.

Domestic animal and pets are increasing source of this infection

3. Anthorpophilic organisms:

Often epidemic in nature, have adapted to infect humans.

The cause mild but chronic lesion and transmission by direct contactor through fomities.

Host differences play a role in the Epidemiology of anthropophilic infections.

C. Endemic areas (Geographical Location)

Dermatophytosis occurs throughout the world but certain types of disease and some species of fungi show geographically restricted distribution. Eg. Microsporummannum - Cuba (Endemic region) T. Concentricum - India, Pacific Islands, Ceylon, Central and South America.

Host Factors

Host differences play a role in the epidemiology of anthropophilic infections. Intercurrent diseases, altered host defence system are important host factors.

Other Factors

1. Age: Anthropophilictineacapitis occurs more in children.

2. Sex and Race :

I**.** Black male children appeared to be particularly susceptible.

II. Females - Tricophyton Tineacapitis when occurring in adults is common for the Female.

III. Males - Tineacruris more common in males.The causes for the sex differences in infection may be explained partially by females are less frequently exposure to an environment conductive to the spread of the organism, (eg. athletic organizations, military service, and hotels) when these factors are equalized; the incidence of tinea in women approaches that in men.

The location of the dermatophytosis is partially dependent on climatic condition of the area and the customs of the resident population, eg. Tineapedis -more common in areas where all wearing shoes. In locations where the inhibitants were sandals or go bare foot the infection is markedly less common.

Common predisposing factors or conditions

Overcrowding, poor personal hygiene, low socio economic condition.

Interruption in anatomical barriers, (burns and endotracheal tubes) or indwelling foreign bodies (catheter, prosthetic heart valves/joints) granulocytic dysfunction, secondary to hematological malignancies (leukaemia) or cytotoxic chemotherapy, depressed cell mediated immunity associated with organ transplanation, AIDS or immunosuppressive therapy, (corticosteriods therapy) and diabetic ketoacidosis, intravenous drug abuses.

Fungi are facultative pathogens, (only in the presence of certain adjuvant factors like trauma, maceration, warmth, lack of fresh air and sunlight to a part, previous infection, sensitation and debility).

Importance of the body's basic resistance (condition of the soil) must be appreciated in comparison with the causative organism and fungi, or which undo stress has been laid in the part.

Pathogenesis

Presence of a suitable environment on host skin is of critical importance in the development of clinical dermatophytosis. Trauma in addition, increased hydration on the skin with maceration is important.

Occlusion with a nonporous material increases the temperature and hydration of the skin and interferes with the barrier function of the stratum corneum, (eg. wearing non-porous shoes definitely contributes to the developement of Tineapedis). In tropical climates non-acclimatized subjects often develop lesions of Tineacorporis, in part because of occlusive clothings.

Stage

If the host is inoculated under suitable conditions, the first phase of dermatophyte invasion involves the adherence of infectious spores to keratinocytes on the stratum corneum. In vitro this process is completed after 2 hours of contact.

There follow several stages through which the infection progresses.

1. A period of incubation
2. Enlargement followed by refractory period
3. Stage of involution.

A. During incubation period; a dermatophyte grows in the stratum corneum, sometimes with minimal clinical signs of infection. A carrier state has been postulated when the presence of a dermatophyte is detected on the normal skin by Potassium Hydroxide examination or culture. During the early (i.e. incubation) phase of dermatophyte infections, organisms are present but are clinically silent. Only a limited number of these patients will develop clinical disease during follow-up-period. These individuals presumable represent true carriers.

Once infection is established in the Stratum corneum, two factors are important in determining the size and duration of the lesion.

There are,

1. Rate of growth of the organism.
2. Epidermal turnover rate.

The fungal growth rate must equal or exceed the epidermal turnover rate or the organism will be shed quickly.

The inflammatory response at the rim of the lesion stimulates an epidermal turn over in an effort to shed the organisms.

Lag periods between the initiation of the infection, lost inflammatory response and the increased epidermal turn over are known as refractory periods.

Following this, only the organisms at the inflammatory rim are being shed, while those just ahead maintain the infection.

The centre of the lesion has relatively few organisms in contrast to the 'battle ground' of the peripheral rim.

Stage of involution

The affinity of dermatophytes for keratin is the sine quanon of their existence. Different species of dematophyte are attracted to different types of keratin.

e.g. T Rubrum - Seldom attacks hair but frequently involves nails and glabrous skin.

E. Floccosum - rarely involves nails and never intacts hair.

Keratinases and other proteolytic enzymes are produced by dermatophytes. There is a significant correlation between inflammation and enzyme production.

The host immunologic response and also enzyme or toxins produced by the organism account for the clinical findings in dermatophytosis. Other factors are probably involved, but they have not been elucidated yet.

Histopathology

The clinical appearance of ringworm infection is the result of combination of direct damage to the kerantinized tissues by the fungus and the inflammation host response.

Ringworm infection may mimic other skin disease. Trichophytonrubrum in particular shows hyperkeratosis, patchy parakeratosis, hyper or hypogranulosis, spongiosis, monouclear invasion, and mild or moderate acanthosis accompanying dermal infiltrate of lymphocytes and histiocytes is largely perivascular.

The picture may be more inflammatory with superficial crusting and acute inflammatory changes in the epidermis and become vesicular to the extent of mimicking acute contact dermatitis.

Another picture is granuloma faciable type of reaction in which the epidermis and upper dermis are normal but the mid dermis has an infiltration proximal to dilated blood vessels.

Pustular reaction includes subcorneal changes and follicular lesion. The folliculitis and perifolliculitis are due to fungal reminants in the follicles.

Inflammatory changes ranges from spongiosis of the outer roof sheath to deep perifollicular granulomatous inflammation showing necrosis induced by fragments of hair exuded from disrupted follicles.

Most of the inflammatory changes are thought to be mediated by immune reaction. T.rubrum is a fairly potent direct activatory of complement by the alternative pathway and possibly other endogenous pathways.

Annular lesions:

In a classical annular ringworm lesion, the growing edge is marked by inflammatory changes in the skin. In the central area of the inflammation subsides following elimination of the fungus mycelium. Outward growth continues in preference to any attempt at centripetal recolonization.

The epidermal turnover rate is normal within the ring, but 4 times more in the inflamed zone, central clearance is often partial and in Tineaimbricata, successive waves of fungal growth occur in skin previously cleared, but progress is again centrifugal.

Immunology of Ring Worm

Dermatophytes are chemotactic and they can activate the alternative pathway of complement activation. The antigen diffuses from the stratum corneum to stimulate sensitized lymphocytes. Inflammatory mediators and lymphokines are produced by their cells and probably act on the host cells rather than on the dermatophyte. Because of this response, the epidermal barrier is abrogated.

The production of cytokines by keratinocytes such as IL-I have not been investigated in the mobilization of neutrophil defense. Neutrophils and monocytes can kill dermatophyte conidia. This actively depends on both intra and extra cellular mechanisms and the generation of respiratory burst is an important stage in this process.

The generation of antibodies to dermatophytes plays a major role in defense, patients with widespread infection such as Tineaimbricata may have high antibody titter, and low titter of SIR (Serum Inhibitory factor), the presence of elevated levels of IgE in particular is associated with chronicity, and so, the cell mediated immune response typically leads to inhibition, no complete destruction of the dermatophyte.

In man the appearance of inflammation in ringworm correlates with type IV with the development of delayed type skin reactivity to Trichophtin. Chronic infections are associated

with poor T.lymphocyte mediated response to specific fungal antigen suggesting that depression of responses is responsible for the Poor clinical response. The developing of cellular immunity via sensitized T-Lymphocytes is a key factor in immunological defense. After the development $_0$f cell mediated immunity the infected area becomes less inflammatory and eventually spontaneously involves. If a second infection with the same organism is produced in the same subject at a later time, the site becomes inflammatory very early and resolves relatively quickly.

There is an association between the presence of atopy and chronic dematophytosis with persistent disease, having atopy (usually asthma or hayfever) as well as immediate type of hypersensitivity and raised IgE level. Patient with this atopic chronic - dermatophytosis syndrome are capable of delayed hypersensitivity skin test reaction, but these reaction are inhibited by the more sensitive preceeding type I response.

Modulation by T.-Lymphocyte either locally or systemically may be responsible or include activiation of histamine responsive suppressor cells. Other studies have demonstrated the antagonistic effects of histamine on the cell-mediated immune response. This finding has important therapeutic relevances as the use of an H_2 histamine blocker (cimetidine) may prevent this antagonism and so enhance the patients own delayed hypersensitivity reaction.

Dermatophyte antigen affects expression of T-Lymphocyte responses. Chronic infection due to T.rubrum produce dry type infection associated with poor lymphocyte transformation responses compared to other dermatophytes.

Non-Immunological Defence against Ring Worm

Apart from immune mechanisms, there are various host factors, which are important in determining, whether or not particular individual infected with a fungus or if infected whether that infection clears spontaneously.

Epidermal Integrity

Normal intact dry epidermis is resistant to dermatophyte infection. Mild trauma to scalp, more severe trauma to the feet or maceration by occlusion have always been required to achieve infection.

Epidermal turnover

When the invading dermatophyte to retain a bridgehead on the host must invades through stratum corneum or hair or nail at a rate alteast equal to that at which these tissues grow outwards.Whether the very fast growing epidermis of the psoriatic plaque in the psoriatic subject

is more resistant to fungal infection is not reliably known. Successful experimental inoculation of dermatophytes into psoriatic plaque has been reported but the occlusion used had some inhibiting effect on epidermal turnover.

Saturated fatty acids

Some saturated fatty acids with 7,9,11 & 13 carbon chains abstracted from adult hair and dervied from sebum were inhibitory to fungi. Due to their presence on their skin in post pubertal children may account for the spontaneous resolution of tineacapitis after this age and the rarity of infections in adults.

Age, Sex, Genetic and Racial Factors

There may be racial difference of susceptibility but they are not clear-cut. Negroid skin seems to be relatively less susceptible to fungal infection that the Caucasoid. In Tinea imbricata a genetic susceptibility factor inherited as an autosomal recessive has been suggested.

Endocrine and Metabolic Factors

No reliable evidence that the diabetic patient is a especially susceptible to dermatophyte infection. In malnutrition and in Cushing syndrome the apparently diminished resistance to infection is attributable to depressed cellular immunity.

Temperature

Exception of T-verrucosum, all dermatophytes grow poorly at 37°C. This factor alone may be responsible for the lack of deep invasion by this group of organism.

Completing organisms and co-pathogens

Penicillin like antibiotics shown by certain dermatophyte species might be taken as evidence for an antagonistic relationship between the fungi and the normal skin. Staphaylococcus act, as a co-pathogen increasing the degree of inflammation in fungal infection.

CLINICAL FORMS OF RINGWORM INFECTION:

Classification of Tinea

Clinical forms of ringworm infections are classified traditionally according to the site of the body infected.

They are:

1. Tineacapitis - Ringworm of the scalp (or) Tineatonsurans.
2. Tineabarbae - Ringworm of the beard

3. Tineacorporis - Ringworm of the body (or) Tineacircinata
4. Tineamanuum - Ringworm of the hand.
5. Tineaunguium - Ringworm of the nail
6. Tineacruris - Ringworm of the groin, dhobie's itch, Jocket Itch.
7. Tineapedis - Rignworm of the foot, athlete's foot.

Clinical forms of Ringworm infection	**Name of the organism**
1. Tinea capitis	Microsporumcanis, M.audouniiTrichophytontonsurans M. verrucosum.
2. Tinea barbae	T. mentagrophytes, T. Verrucosum. M.canis, T.rubrum
3. Tinea corporis	T.rubrum, T.mentagrophytes, M.canis.
4. Tinea cruris	Epidermophytonfloccosum, T.rubrumT.mentagrophytes.
5. Tinea manuum and Tineapedis	T.rubrum, T.mentagrophytes, E.floccosum.
6. Tinea unguium	T.rubrum, T.mentagrophytes.

Tinea/Ring worm is a group name for a highly contagious, segmented mycelial fungus; there are three distinct genera in this group.

1. Epidermophyton:

Affects only human skin, there is only one important species E.floccosum.

2. Trichophyton:

More virulent than others. It affects the hair, the glabrous skin, as well as the nails; it includes both the human and animal species.

Important species are T. Rubrum, T. Mentagrophytes, T. Violaceum, T. Verrucosum and T. Schoenleint.

3. Microsporum

It affects mainly the hair and less commonly, the glabrous skin. The important species are: M. audounii (Human variety), M. canis, M.lanosum (Animal varieties)

Causes the most fungal infections of skin

Trichophytonrubrum.

CLINICAL FEATURES

TINEA CORPORIS (TINEA CIRCINATA)

Definition

All dermatophyte infection of glabrous skin with exclusion of certain specific location i.e. palms, soles and groin.

Epidemiology

Transmission is by direct contact with other infected individuals or by infected animals, clothing and furniture.Under appropriate environmental condition (warmth, humidity), a reservoir of infection on the feet or elsewhere may be the source of Tineacorporis.In children the infection is due to zoophilic organism transmitted by contact with pets (especially cats and dogs).

Clinical Manifestation

1. Typical annular lesion with an active, erythematous and sometimes vesicular border with central clearing.
2. In T.rubrum and in T.imbricata infection the centre shown concentric rings.
3. In T.rubrum confluent plaques of infection may occur. Polycyclic lesions are also seen frequently.
4. When the infection is due to a zoophilic organism the lesions are commonly seen on exposed skin (head, neck, face and arms).
5. When the infection due to anthropophilic organism, occurs in occluded areas or in areas of trauma (perifolliculitis of the legs in women may be associated with leg shaving)

DIFFERENTIAL DIAGNOSIS

1. Annular lesions of Psoriasis:

Silvery scales, candle grease sign. Typical lesions of elbow, knees, scalp and nails.

2. Nummular Eczema

No active inflammatory border, Bilaterally symmetrical patches, Usually on limbs in winter.

COMPLICATIONS

Extension of the infection down the hair follicles. (More difficult to cure) Pyoderma Dermatophytid reaction

PROGNOSIS

Treatment should be continued for 1-2 week after clinical curing.

Usually responds promptly to conservative topical therapy within 4 weeks or to antifungal drugs by mouth.

TINEA CRURIS

Tineacruris is a dermatophytosis involving the groin area and include infections of the genitalia, pubic area, perineal and perianal skin.

Epidemiology

Direct contact, trauma are the mode of transmission.

It is almost exclusively a male dermatophytosis depend on several factors. Indirect transmission occur through contact with non living objects that carry infected scales like bed lines, towels, articles of clothing, and even bed pans of urinals.

Clinical Manifestation

A. Well-marginated raised border that may be composed of multiple erythematous papulo vesicles.
B. Pruritis, pain may be present if the involved area is macerated or secondarily infected.
C. Often thigh adjacent to the scrotum is the tissue site involved.
D. Chronic scratching may cause lichenification.
E. Weeping, maceration and areas of pustulation may exist.
F. Irritant contact dermatitis may be present if sensitization of irritating topical products has been used in treatment.

Differential Diagnosis

1. Candidiasis - Bright red and marked by satellite papules and pustules out side the main border of the lesion.
2. Seborrhoeic dermatitis - Often involves with face, sternum and axillae.
3. Intertrigo - More red, less scaly and present in obese individuals in moist body folding.
4. Psoriasis - Distinct plaques on other sites of the body.

Prognosis

Responds promptly to topical or systemic treatment. It may leave behind Post - Inflammatory hyperpigmentation.

TINEA CAPITIS

More frequent in boys than girls. Ringworm of the scalp in which the essential feature in invasion of hair shafts by a dermatophyte fungus.

There are three varieties.

1. Scaly variety

The commonest, caused by microsporum. A circular patch or patches of partial alopecia with thin greyish scales. Broken lustreless stubs of hair

2. Kerion variety

Caused by Trichophyton. In the beginning small boil like lesion with little oozing and no pus.Later red, painless, boggy swellings are produced, and have no pus. Lesions are irregularly distributed on the scalp along the area of partial alopecia.

3. Black-Dot variety

Caused by Trichophyton, Appearance of black dots and it can always be detected at the periphery of the lesion. Alopecia may look almost complete

Carrier state in tineacapitis

A carrier is a person who does not have clinical signs of tineacapitis but has a positive culture from the scalp. In families in whom tineacapitis is identified, the carrier rate in is around 30%. The presence of these carriers will reduce the cure rate for tineacapitis if they are not treated concomitantly.

Differential Diagnosis

1. Seborrhoeic dermatitis:

Uncommon in children, 2-8 years of age. In this age range seborrhoeic dermatitis is rare.

2. Alopecia Areata:

Well defined patches of Complete alopecia. Absence of dull, broken hair and greyish scales, presence of "exclamation mark" hair.

3. Impetigo:

Culture positive for staphylococcus aureus.

Prognosis:

Tinea capitits should be treated whenever detected. Rarely permanent alopecia may result in kerionvarity.

TINEA PEDIS AND TINEA MANUUM

Tineapedis is a dermatophyte infection of the feet;

Tineamanuum is a dermatophyte infection of palms, and interdigital areas of the hand.

Epidemiology

Infection is common during the summer months and in tropical or sub tropical climates. Incidence of Tineapedis is definitely higher in any population that wears occlusive shoes.

Infection rate is increased using commonal bath or pools. It is an exogenously transmitted infection in which cross infection among susceptible individuals readily occurs.

The rate of infection is much higher in closed communities like athletic teams, military organization and boarding schools.

Clinical Manifestations

1. Tineapedis may present as one of 4 clinically accepted variants. Chronic infection is the most common and is characterised by fissuring, scaling, and maceration in the interdigital or sub digital areas.

2. The lateral (ie. 4^{th} to 5^{th} or 3^{rd} to 4^{th}) toe webs are the most common sites of infection. From here infection may spread to the sole or instep of the foot, but it seldom involves the dorsum.

3. Aggravating factor is warmth and humidity.

4. Hyperhidrosis may be an underlying problem and should be treated along with the dermatophytosis.

1^{st} type; Interspace showed maceration, white hyperkeratosis or erosions with increasing patients symptomatoloty, an overgrowth of the bacterial flora including gram - negative was noted. It was found that the clinical picture of symptomatic "athlete's foot" results from the interaction of bacteria and dermatophyte.

2^{nd} type: Chronic papulosquamous pattern usually bilateral, characterised by minimal inflammation, diffuse scaling over the soles. In addition to the feet the hands may be involved as well as multiple toenails. A common presentation is, "One hand, two feet presentation observed with T.rubrum infection".

3^{rd} Type: Vesiculo bullous type caused by T.mentagrophytes.

4^{th} type: Acute ulcerative variant associated with maceration, weeping of ulceration, obvious white hyperkeratosis and a pungent odour is characteristically present. This infection is often complicated by a secondary bacterial overgrowth (especially gram negative bacteria)

Differential Diagnosis

Psoriasis - Repeated fungal culture give negative result.

Contact detmatitis - Often involves the dorsal surface of feet.

TINEA BARBAE OR TINEA SYCOSIS (BARBER'S ITCH)

It is a fungal infection limited to the coarse hair - bearing beard and moustaches area of men.

Epidemiology

Tinea barbae is by definition seen only in males. Contaminated barber's razors or clippers transmitted it from person to person. The infection is by exposure to animals like cattle and dogs.

Clinical Manifestations

They are 3 clinical types

1. Inflammatory or kerion like
2. Superficial or sycosiform type
3. Circinate spreading type

1. Inflammatory type

Unilateral lesions, common areas of involvement are chin, neck, maxillary and submaxillary areas. Upperlip is usually spared.

The lesions are nodular and boggy associated with weeping of seroprulent material with crusting. Perifollicularpustulation is observed.

2. Superficial type

Typically resembles a bacterial folliculitis. Diffuse erythema associated with perifollicular papules and pustules

3. Circinatetinea

There is an actively spreading vesiculopustular border with central scaling; there may be a relative sparing of hair in this variant. Atypical tineabarbae may also see especially if the course of the disease is altered by corticosteriod or other therapy.

Differential Diagnosis

Sycosisbarbae: Chronic congestion of the skin of the beared region with superficial follicular pustules.

Prognosis

Prognosis is good as regards complete cure. Scarring and alopecia however are the end results of the inflammatory type.

TINEA UNGUIUM

Synonyms: Onychomycosis

Tineaunguium is clinically defined as a dermatophyte of the nail plate.

Epidemiology:

Approximately 30% of patients with dermatophyte infections on other parts of their body also have tineaunguium. Fungal nail infections are always exclusively an adult disease, because the faster nail growth in children appears to make infection more difficult. Infection is higher in men than women though the number of cases affecting the toenails is increased in women due to their narrow toed shoes allow increasing crowding off and greater burden of wet work performed by females. Fungal nail infections are more chronic and recalcitrant to therapy and these infections provide an endogenous source for reinfection of the feet.

Clinical Manifestations

1. Distal subungualonychomycosis (DSO)

Whitish or yellowish discolouration at the free edge of the nail or near the nailfold. As the infection progresses subungual hyperkeratosis may lead to an operation of nail plate and nail bed. Fungi invade the nail plate from the ventral surface and in time the entire nail may become friable and discoloured. Subungual debris also provides a site for opportunistic secondary infection.

2. Proximal subungualonychomycosis (PSO)

First clinical sign of the type is whitish-to-whitish brown areas on the proximal part of the nail plate. The area may gradually enlarge to affect the entire nail.

3. White Superficial Onychomycosis (WSO)

White colour on the surface of the toenails. The surface of the nail is usually rough and friable, as the "eroding fronds" of the organisms remain quite superficial. T.mentagrophyte produces WSO.

Clinical manifestations:

- The condition is very rarely bilateral and symmetrical.
- Tinea affects first the free edges of the nail.
- Opaque, brittle and deformed nail or nails and hyperkeratotic debris under free edges characterize tineaunguium.

- There is no pain and itching.
- The diagnosis is confirmed by the demonstration of fungus in the hyperkeratotic debris and nail cuttings.

DIFFERENTIAL DIAGNOSIS:

Psoriasis:

Moniliasis

Paronychia

Leprosy :

TINEA NIGRA

A superficial dermatomycosis caused by Phaeoanellomyces (Exophiala) werneckii. This is a dematiaceous (pigment-producing) fungus. It causes an asymptomatic tan, brown, or black patch on the palms or soles. Demonstrating pigmented hyphae on a KOH examination of the lesion makes the diagnosis. Tineanigra has been confused with acrallentiginous melanoma.

TINEA FAVOSA (OR) FAVUS

It is a chronic mycotic infection of the scaly glabrous skin and or nails characterized by the formation of yellowish crusts within the hair follicles (scutula) and eventuating in a cicatrical alopecia.

Epidemiology

Favus is typically a chronic infection that begins early in life and commonly extends into adulthood. This is predominant in rural areas associated with poor hygiene and malnutrition. Relatively intimate and prolonged contact is probably required for transmission. Cleanliness with the removal of hairs or other sources of infection is an important factor on controlling the disease.

Etiology:

Common dermatophytes producing favus is T.schoenleini.

Clinical Feature

Scutula are found in most cases of favus. They gradually expand form a yellowish - red papule to form a yellowish, cup shaped structured that may become 1 cm or more in diameter. A single, lusterless, dry hair pierces the center of the scutulum, the colour (yellowish) is due to the invasion of the hair by multiple intrapilar hyphae.

If the scutulum is removed from its attachment to the epidermis, an oozing, erythematous base is noted. When hygienic conditions are lacking, a characteristics **"Mousey"** odour may be appreciated.

In the classic presentation lesions appear in a patchy distribution on the scalp and coalesce of polycyclic in shape. The center of the infected area becomes extensively scarred and almost totally devoid of hair. Besides scalp, favus may involve glabrous skin and nails. In later stages a cicatrical alopecia may be present.

Majocchi's granuloma is a follicular abscess produced when a dermatophyte infection penetrates the follicular wall into the surrounding dermis. Patients usually present with one or more tender boggy papules or plaques on the legs or, less commonly, arms. Pus may be seen drar from the hair follicle. Trichophytonrubrum or T. mentagrophytesare the species most co-isolated from these lesions. Treatment should consist of an oral antifungal agent.

Tinea incognito

This is the name given to extensive ringworm with atypical appearance due to the inappropriate use of topical crtiocosteroids. The corticosteroids suppress the protective inflammatory response of the skin to the ringworm fungus allowing it to spread and alternating its appearance.

LABORATORY DIAGNOSIS OF THE SUPERFICIAL MYCOSIS

Dermatophytosis

Although, the diagnosis of superficial fungal infection can be strongly suspected on clinical grounds, it is usually prudent and sometimes essential to seek laboratory aid. Direct microscopic examination, culture of selective materials, and woods lamp examination should be made whenever possible.

Collection Specimens.

In dermatophyte infections, the active border of the lesion contains the viable organisms and is most likely to give positive results. It must be scraped with a sterile scalpel and any hair stubs should be plucked with sterile forceps. Once collected, specimen should be examined rapidly or placed in dry containers, such as clean dishes or paper envelopes; a folded piece of black paper is most appropriate. In Tinea unguium, the nail bed is raised at the distal end and the powdery debris is removed from under the nail with a slightly curved needle.

Skin Scrapping

The specimen is cleaned in 10-20% potassium hydroxide. Microscopic examination is carried out using low-power and high-power lenses of direct microscopy.

Scrapping of the skin are examined as for hair. Spores can be differentiated from artifacts because they are of uniform size, and hypae are differentiated from fibres by being branched. In onychomycosis, part of the nail is cleaned in 10% potassium hydroxide overnight to dissolve away the keratinous material and allow the fungal elements to be seen that penetrate through the epidermal scales. Round or barrel-shaped spores are also found.

The material is first placed on a glass slide, and then 1 or 2 drops of 10-20% potassium hydroxide (KOH) are added. A fungal stain such as chlorazol black E may be added to the preparation to aid visualization of the fungal elements. The hyphae of dermatophytes will be septate and typically demonstrate branching. Mosaic hyphae actually represent thickened stratum corneum cell walls. True hyphae cross the cell walls of keratinocytes and do not conform to the contour of keratinocytes.

Sabouraud's dextrose agar:

A nonselective culture medium consisting of peptone, dextrose, agar, and distilled water. It allows the growth of bacteria as well as pathogenic and nonpathogenic yeast and molds.

This may be required not only to confirm the diagnosis but also to identify the species of the causative fungus.

Woods lamp examination

A Wood's lamp is a light that uses long wave ultraviolet light. When an area of scalp that is infected with tinea (a type of ringworm fungus) is viewed under a Wood's light, the fungus glows (green yellow fluoresces). This test may be done to detect the presence of a fungal scalp or skin infection.

A Wood's light is an ultraviolet light source that emits in the spectrum of 325-400 nm. This light was used extensively for the diagnosis of tineacapitis when Microsporumaudouiniiwas the major cause of this disorder. However, it is of limited usefulness today since most cases are now produced by Trichophytontonsurans, which is not fluorescent.

The fluorescence is caused by pteridine. The fungi responsible for fluorescent are; Tinea capitis, T. Schoenleinii, M. Canis, M. Audouinii, M. Distortum, T. Ferrugineum

Histopathological examination

Histopathological examination of a periodic acid Schiff stained section reveals hyphae and spores in the horny layer. Furthermore, the hypo-pigmented areas are characterized by a normal number of melanocytes whose dendrites are filled with small, sparsely melanizedmelanosomes. Also the number of melanosomes is reduced in many of the keratinocytes. This is explained by an abnormal maturation of melanosomes and partial block in their transfer to kerationocytes.

Preventive Measures of Ring Worm Infections

The skin should be kept dry, since skin favours the growth of fungi.

1. The essential factor in prevention is personal hygiene.
2. Dry the skin carefully after bathing or after perspiring heavily, and let it dry for 10-15 minutes before dressing.
3. Socks should be changed frequently.
4. Loose-fitting underwear is advisable.
5. Cutting of nail.
6. Sandals Open toed chapels should be worn if possible.

PROPERTIES OF THE TRIAL DRUGS (INTERNAL)

1. PARANGI CHAKKAI

Botanical Name	:	Smilax Chinensis Linn.
Family	:	Lilliaceae
English Name	:	China root
Part used	:	Root

Organoleptic Characters:

Taste	:	Inippu (Sweet)
Potency	:	Seetham (Cold)
Pirivu	:	Inippu (Sweet)

General properties:

தாகம் பலவாதந் தாதுநட்டம் புண்பிளவை
மேகம் கடிகிரந்தி வீழ்முலந் – தேகமுடன்
குட்ட பகரந்தமேற் கொள்வமனம் போம்பறங்கிப்
பட்டையினை யுச்சரித்துப் பார் (தே.கு)

Actions:

- Alterative
- Antisyphlitic
- Aphrodisiac
- Depurative

2. SIVANAR VEMBU

Botanical Name	: Indigofera aspalathoides, vehl ex DC
Family	: Papilionaceae
English name	: Indigo plant
Part used	: Leaf,stem,root,flower

Organoleptic Characters:

Taste	: Kaippu(Bitter)
Potency	: Veppam(Heat)
Privu	: Kaarppu

General properties:

குட்டஞ் சிரங்கு குறைப்புப் புசமாந்தை

கட்டப் பிணிகள் கழலுமே-திட்டம்

உரனிம்பங் காயத்துக் குண்டாகு மேலை

அரனிம்ப மென்னுமருந் தால். (தேரன்-வெண்பா)

Action :

- Stimulant
- Demulcent

3. CHANGANVER PATTAI

Botanical Name : Azima tetracantha,Lam.

Family : Salvadoraceae.

English Name : Mistle toe berry thorn,Four Spined meneita.

Part Used : Leaf,Root,Milk

Organoleptic Characters:

Taste : Kaippu(Bitter)

Potency : Veppam(Heat)

Privu : Karppu

General properties:

சங்கம்வேர்ப் பட்டை சளியிருமலைச் சுரத்தை

அங்கவா தக்கடுப்பை ஆடதைப்பைப்-பங்கமே

செய்யுங் கிரந்தியையுள் தீகால் கிருமியையிவ்

வையந் தனிலொழிக்கு மால். (அ.கு)

Action :

- Diuretic
- Stimulant
- Astringent
- Tonic
- Antiperiodic
- Expectorant

4. VELLARUGU

Botanical Name : Enicostemma axillare.(Lam) Raynal

Family : Gentianaceae

Part Used : Poondu

Organoleptic Characters:

Taste : Kaippu

Potency : Veppam

Privu : Karppu

General Properties:

குன்மமொடு வாய்வு குடல்வாதம் சூலையிவை

சென்மம் விட் டோடிச் சிதையுங்காண்-வன்முலையாம்

உள்ளூறு கிரந்திசொறி யொட்டிய சிரங்குமறும்

வெள்ளறுகு தன்னை விரும்பு. (அ.கு)

Actions:

- Stomachic
- Tonic
- Alterative
- Laxative
- Febrifuge

5. KARUMBU

Botanical Name : Saccharum officinarum.Linn

Family : Gramineae (Poaceae)

English Name : Sugarcane,Noble cane

Part Used : Karuppancharu

Organoleptic Characters:

Taste : Inippu(Sweet)

Potency : Seedham

Privu : Inippu

General Properties:

அருந்து மருந்திற் கனுபான மாகப்

பொருந்துமடல் வாந்திபித்தம் போக்கும்-அருந்தருசி

நீக்கு மதிகபத்தை நீற்றுமகிழ்ச்சியுண்

டாக்கு நறுஞ்சர்க்க ரை. (அ.கு)

Actions:

- Antiseptic
- Demulcent

PROPERTIES OF TRIAL DRUGS (EXTERNAL)

6. NEERADI MUTHU

Botanical Name : Hydnocarpus laurifolia (Dennst) Sleumer.

Family : Flacourtiaceae

English name : jangli almond.,marothi tree,Chaulmugra

Part used : Seed

Organoleptic Characters:

Taste : Kaippu

Potency : Veppam

Privu : Karppu

General Properties:

நீரடி முத்திற்கு நீங்காக் கிரந்திகுட்டம்

போரிடு வாதமுமே போகுங்காண்-காரடுக்கும்

மென்குழலாய் ! பித்தம் மிகுமனலம் உண்டாகும்

முன்கிளர் நமைச்சலறு முன். (அ.கு)

Actions:

- Alterative
- Stimulant
- Detergent
- Parasiticide

7. KASA- KASA

Botanical Name : Papaver Somniferum, linn.

Family : Papaveraceae.

English Name : Opium poppy ,Poppy casules.

Part Used : Seed

Oraganoleptic Characters:

Taste : Inippu

Potency : Veppam

Privu : Inippu

General Properties:

கிருமி நமைச்சல் கிராணியதி சாரஞ்

சிரநீர் அநித்திரைபோஞ் செப்பில்-உருவழகுங்

காந்தியுமுண் டாகுங் கசகசா வின்குணத்தைத்

தேர்ந்தவர்க்கு விந்துவுமாந் தேர். **(அ.கு)**

Actions:

- Sedative

8. KOPPARAI THENGAI

Botanical Name : Cocos Nucifera.

Family : Arecaceae

English Name : Coconut palm,coconut tree.

Part Used : Kaai

Organoleptic Characters:

Taste : Thuvarppu

Potency : Thatppam

Privu : Karppu

General Properties:

தேங்காயி னெய்யதனாற் றீயால் வருபுண்போம்

பாங்காகக் கூந்தற் படர்ந்தேறு-நீங்காத

பல்லடியின் னோயும் படர்தா மரைசிரங்கும்

அல்லறப் போமென் றறி. **(அ.கு)**

Actions:

- Refrigerant
- Aperient
- Nutrient
- Diuretic

9. KATTU –CHIRAKAM

Botanical Name : Vernonia anthelmintica willd.

Family : Asteraceae

Engllish Name : Purple fleebane

Part Used : Seed

Organoleptic Characters:

Taste : kaippu

Potency : Veppam

Privu : kaarppu

General properties:

கைகறுப்பு மாறுங் கடியமே கம்போகும்

மெய்குளிரும் பித்தம் விளையுமோ-வெய்யகரிக

கோட்டுப் பணைமுலையாய் ! குன்மவா தந்தொலையுங்

காட்டுநற் சீரகத்தைக் காண். (அ.கு)

Actions:

- Anthelmintic
- Stomachic
- Tonic
- Diuretic
- Antiperiodic
- Alterative

10. ARUNJ-CHIRAKAM

Botanical name : Nigella sativa.Linn

Family : Ranunculaceae

Englilsh Name : Black Cumin;Small Fennel

Part Used : Seeed

Organoleptic Characters:

Taste : Kaippu

Potency : Veppam

Privu : Kaarppu

General Properties:

கருஞ்சீ ரகத்தான் கரப்பனொடு புண்ணும்

வருஞ்சிராய் பீநசமு மாற்றும்-அருந்தினால்

காய்ச்சல் தலைவலியுங் கண்வலியும் போமுலகில்

வாய்ச்ச மருந்தெனவே வை. (அ.கு)

Actions:

- Carminative
- Diuretic
- Anthelmintic
- Stomachic
- Emollient

11. KARPOKARISI

Botanical Name : Psoralea corylifolia.Linn

Family : Fabaceae

English Name : Babchi Seeds

Part Used : Seed

Organoleptic characters:

Taste : Kaippu

Potency : Veppam

Privu : Kaarppu

General properties:

கார்போக மாமரிசி கண்டாற் கரப்பான்புண்

பீர்சகுவ நஞ்சிவைபோம் பித்தமுண்டாம்-பார்மீதில்

வாத கபநமைச்சல் வன்சொறிசி ரங்குமறுஞ்

சீத மலர்க்குழலாய் செப்பு. (அ.கு)

Actions:

- Laxative
- Stimulant

12. BRAHMATHANDU VITHAI

Botanical Name : Argemone Mexicana.Linn

Family : Papaveraceae

English Name : The maxican poppy;The Yellow thistle

Part Used : Seed

Organoleptic Characters:

Taste : Kaippu

Potency : Veppam

Privu : kaarppu

General properties:

புண்ணோடு கரப்பான் கடிசிரங்கு சில்விடங்கள்

சண்ணிருமல் மேகவளி தண்மேகம்-அண்ணிற்

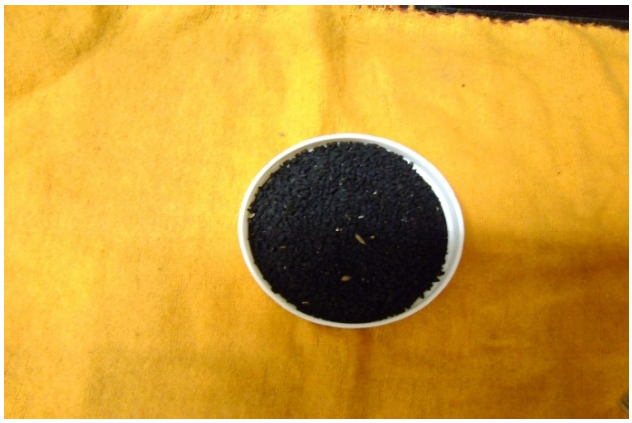
படியோட்டு மாவிடமும் பல்நோயுந்தீருங்

குடியோட்டுப் பூண்டாற் குலைந்து. (அ.கு)

Actions:

- Laxative
- Sedative

RAW DRUGS - EXTERNAL MEDICINE

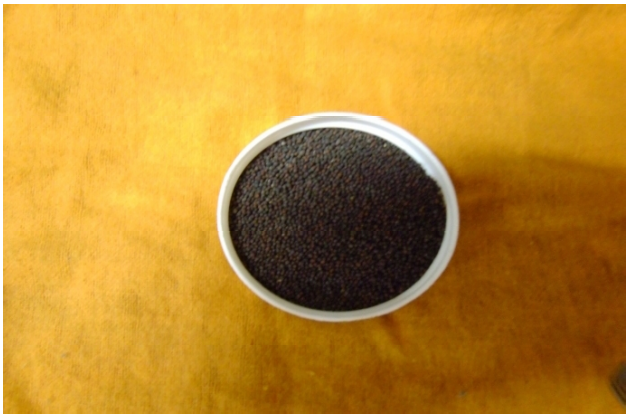


Nigella sativa.Linn

Cocos nucifera

Hydnocarpus laurifolia (Dennst) Sleumer

Papaver Somniferum, linn



Argemone Mexicana.Linn

Psoralea corylifolia.Linn

Vernonia anthelmintica willd

RAW DRUGS - INTERNAL MEDICINE

Smilax chinensis Linn

Indigofera aspalathoides, vehl ex DC

Azima tetracantha,Lam

Enicostemma axillare.(Lam) Raynal

Saccharum officinarum.Linn

TRIAL DRUG

PRANGICHAKKAI CHOORANAM

NEERADIMUDHU PASAI

STANDARD OPERATING PROCEDURES:

Internal Medicine: PARANGICHAKKAI CHOORNAM

Ingredients:

1. Parangichakkai (Smilax china .Linn) - 8 palam (280 Gms)
2. Sivanar vembu (Indigofera aspalathoides.vahl ex DC) - 4 palam (140 Gms)
3. Changan verpattai (Azima tetracantha, Lam) - 2 palam (70 Gms)
4. Vellarugu (Enicostemma axillare.(Lam)Raynal) - 2 palam (70 Gms)

Source of trial medicine:

The raw drugs for the preparation of Parangichakkai Choornam and Neeradimuthu Pasai will be purchased from a well reputed country shop and the purchased drugs were authenticated by the authorities of Botany, National Institute of Siddha..

Method of preparation:

The purified Parangichakkai [#] is dried and made into choornam. Then the other three drugs such as Sivanar vembu (Indigofera aspalathoides.vahl ex DC), Changan ver pattai (Azima tetracantha, Lam), Vellarugu (Enicostemma axillare. (Lam) Raynal) were dried in sunlight and made into fine powder (choornam); and is mixed with the above parangichakkai choornam. Along with the choornam 10 palam (i.e 350 gm) sugar is mixed and it is kept inside the pot for 10 days in Thaaniya pudam*

Drug storage:

The trial drugs **Parangichakkai Choornam** (Int) is stored in clean plastic container and **Neeradimuthu Pasai** (Ext) is stored in another clean plastic container.

Dispensing:

The choornam is given in powder form in packets and paste is given in plastic container.

 # PURIFICATION OF PARANGICHAKKAI:

(Reference: Chikitcha Rathina Deepam; Page no117)

Drugs used for purification of Parangichakkai:

Sadura kalli (Euphorpia antiquorum. Linn.) - 1 thookku (1.7 Kg)

Thiruku kalli (Euphorpia tirucalli) - 1 thookku (1.7 Kg)

Sadurakalli and Thirukugalli are made into small pieces and are taken in one mud pot Then 21.44 litres. (16 Padi) water is poured into the pot and the mouth of the pot will be covered with thin cloth. The Parangichakkai will be made into small pieces and kept over .the cloth then it will be covered by another mud pot with the same size. This instrument is subjected to heat for 6 hrs (Two Saamam) then allowed for boiling. Then the pieces of Parangichakkai are dried in shade then made into chooranam.

*** Thaaniya pudam:**

It is a unique process mentioned in Siddha; in which the prepared medicines will be placed inside the cereals in a particular period especially paddy. After that only the medicines can be used for therapeutic purpose.

EXTERNAL MEDICINE:

NEERADIMUTHU PASAI:

(Reference: Siddha Materia Medica – Medicinal plants division Page no 533-534)**.**

Ingredients:

1. Neeradimuthu (Hydnocarpus laurifolia dennst. Sleumer)
2. Kasakasaa (Papaver somniferum. Linn)
3. Kopparai (Cocos nucifera)
4. Kaattu seragam (Vernonia anthelmintica. Willd)
5. Karunseragum (Nigella sativa.Linn)
6. Karpogi vithu (Psoralea corylifolia.Linn)
7. Brahmathandu vithai (Argemone mexicana.Linn)

- Equal quantity

Method of preparation:

The above ingredients will be made into powder and then will be mixed with Pulitha neer (Vinegar) and made into a paste.

YOGAM TECHNIQUES TO BE USED FOR THE PATIENTS:

- Meditative postures
- Padmasanam
- Vajrasanam
- Pranayamam (Mathrika Pranayamam and Omkhara Pranayamam, Nithirai Pranayamam-SOS)
- Poorana shanthi Aasanam

TRIAL DRUGS:

Internal medicine: PARANGICHAKKAI CHOORNAM

(Reference: Chikitcha Rathina Deepam; Page no117)

Dosage: 5 gm b.i.d

Adjuvant: Honey.

Duration: 30 days

External medicine: NEERADIMUTHU PASAI

(Reference: Siddha materia medica - medicinal plants division; Page 533-534)

Dosage: Q.S

STUDY DESIGN

STUDY TYPE:

Pilot study

STUDY PLACE:

Ayothidoss Pandithar Hospital,

National Institute of Siddha, Chennai-47.

STUDY PERIOD:

12 months

SAMPLE SIZE:

40 patients [20 OP + 20 IP].

Out of the 20 OP patients, 10 patients will be treat only with external medicines and remaining 10 will be treat with both internal and external medicines. Out of the 20 In-patients 10 patients will be given Yogam treatment along with trial medicine and the remaining 10 will be given trail medicines only.

SUBJECT SELECTION:

Patients reporting with symptoms of inclusion criteria will be subjected to screening test and documented using screening proforma .

INCLUSION CRITERIA:

- Age:20 -60.
- Sex: Both Male and Female.
- Typical distribution of the lesions on the face, axilla, body, inguinal regions and nails.
- Well defined raised margin.
- Marked itching.
- Clearance in the central area of the lesion.
- Willing to sign the informed consent stating that he/she will consciously stick to the treatment during 30 days but can opt out of the trial of his/her own conscious discretion
- Willing to give blood and urine sample for laboratory investigations

EXCLUSION CRITERIA:

- Lesions with secondary infections
- Deep type of Tinea barbae.
- Any other systemic diseases
- VDRL Positive cases
- Diabetes
- Hypertension
- Leprosy

WITHDRAWAL CRITERIA

- Intolerance to the drug and development of adverse reactions during drug trial.
- Poor patient compliance & defaulters.
- Patient turned unwilling to continue in the course of clinical trial.

TESTS AND ASSESMENTS

A. Clinical assessment
B. Siddha assessment
C. Routine investigation.

a. CLINICAL ASSESSMENT:

- Site
- Colour
- Size
- Shape
- Border
- Itching
- Erythema
- vesicles
- Papule

b. ROUTINE INVESTIGATIONS:

BLOOD

Hb
Total RBC Count
ESR
Blood sugar

URINE

Urine sugar
Albumin
Deposits

c. RENAL FUNCTION TESTS

Urea

Creatinine

Uric acid

d. LIVER FUNCTION TESTS

Serum total bilirubin

Direct bilirubin

Indirect bilirubin

Serum Alkaline phosphatases

SGOT

SGPT

SIDDHA SYSTEM EXAMINATION:

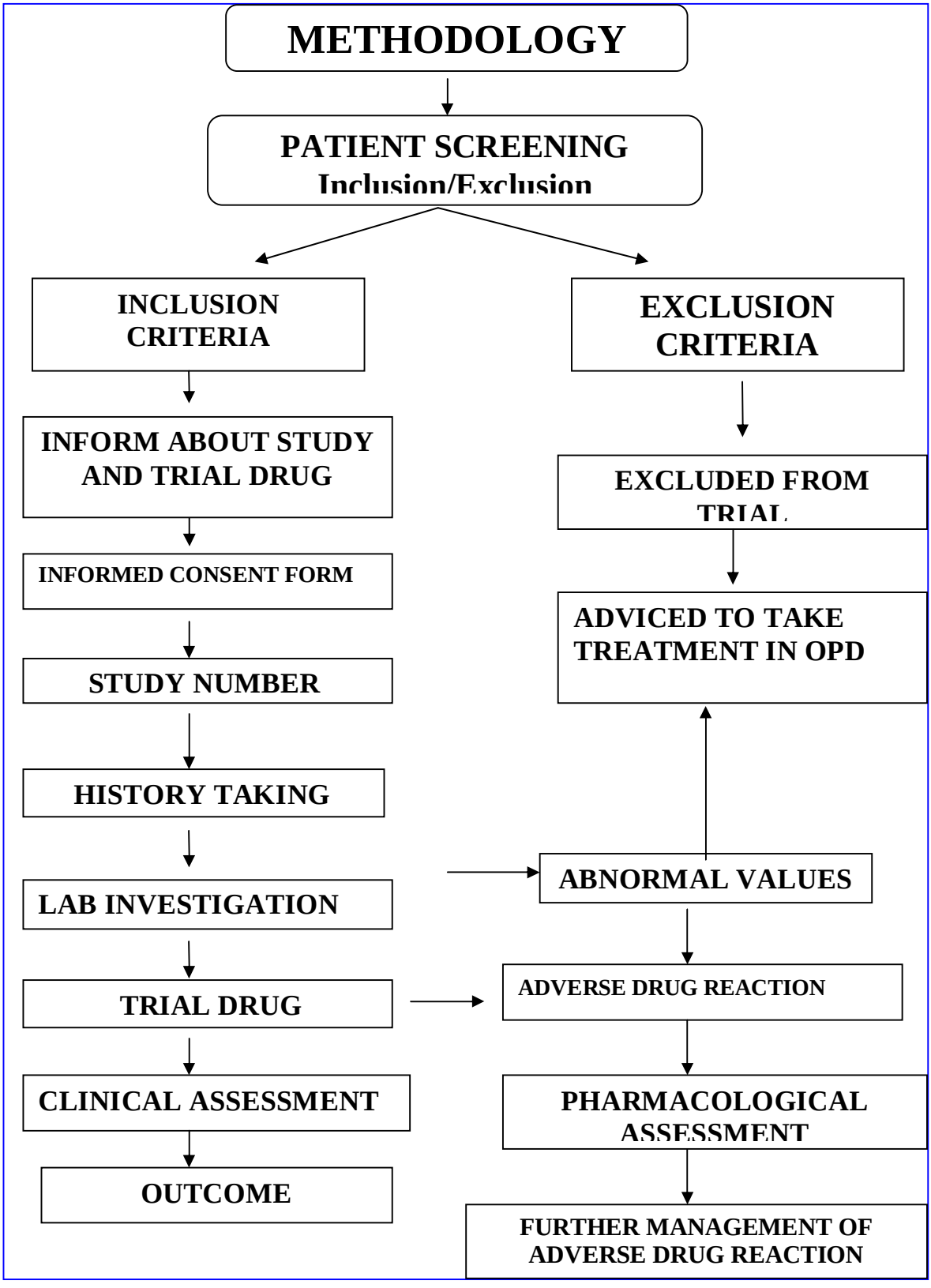
EN VAGAI THERVUGAL:

1. Naadi
2. Sparisam
3. Naa
4. Niram
5. Mozhi
6. Vizhi
7. Malam
8. Moothiram

Neikkuri**:**

Neerkkuri:

METHODOLOGY



STUDY ENROLLMENT

Patients reporting at the OPD with the clinical symptoms of Hyperpigmented elevated patches, itching, burning sensation etc will be examined clinically for enrolling in the study based on the inclusion and exclusion criteria.

The patients who were enrolled would be informed (Form VI) about the study, trial drug, possible outcomes and the objectives of the study in the language and terms understandable to them. and informed consent would be obtained in writing from them in the consent form (Form VI).

All these patients will be given unique registration card in which patients' Registration number of the study, Address, Phone number and Doctors phone number etc. will be given, so as to report easily should any complications arise.

Complete clinical history, complaints and duration, examination findings and laboratory investigations -- would be recorded in the prescribed Proforma.

Screening Form- I will be filled up: Form –II and Form –III will be used for recording the patients' history, clinical examination of symptoms and signs and laboratory investigations respectively. Patients would be advised to take the trial drug and appropriate dietary advice would be given according to the patients' perfect understanding.

CONDUCT OF THE STUDY:

Purgation with Virechana Boopathy Tablet– 2 Nos early morning with hot water will be given for balancing the deranged mukkutram a day before treatment.

The trial drugs Parangichakkai Choornam (Internal Medicine) and Neeradimuthu Pasai (External Medicine) are given for 30 days. OP patients should visit the hospital once in 7 days. At each clinical visit clinical assessment is done and prognosis is noted. For In Patients the trial drug is given for 30 days and the clinical assessment will be done daily. 10 In patients will be given Yogam treatment along with their internal medicines. The remaining 10 In patients will not be given Yogam treatment. The patients were advised to follow the specific dietary regimen during their treatment period. The results will be compared at the end of the study. Laboratory investigations are done 0 day & 30^{th} day of the trial. For In patients, who are not in a situation to stay in the hospital for a long time, are advised to attend the OPD for further follow-up. Siddha investigations like Neer kuri and Nei kuri will be carried over. After the end of the treatment, the

patient is advised to visit the OPD for another 2 months for follow-up. If any trial patient who fails to collect the trial drug on the prescribed day but wants to continue in the trial from the next day or two, he/ she will be allowed, but defaulters of one week and more will not be allowed to continue and be withdrawn from the study with a fresh case being included.

DATA COLLECTION FORMS:

Required information will be collected from each patient by using the following forms.

FORM l **:** Screening Proforma

FORM ll **:** History taking Proforma

FORM lll **:** Clinical Assessment Proforma

FORM lV **:** Clinical assessment during & after Trial

FORM V **:** Laboratory Investigation Proforma

FORM VI.a **:** Information sheet

FORM VI.b **: C**onsent Form

FORM VI.c **:**Dietary advice Form

FORM VII **:**Withdrawal Form

FORM VIII **:**Drug compliance Form

FORM IX **:**Adverse reaction Form

DATA ANALYSIS:

After enrolling the patient in the study, a separate file will be maintained for each and every patient and all forms and other information will be kept in the file. The screening forms will be filed separately. All collected datas will be statistically analysed by Sr. Research Officer (Statistics) for logical errors and incompleteness of data to avoid any bias. No modification in the results is permitted for unbiased reports. Then final report will be generated.

OUTCOME

PRIMARY OUTCOME:

Grade 1 **: Turning to normal skin**

Grade 2 **: Reduction of hyperpigmentation**

Grade 3 **: Reduction of size and oozing**

Grade 4 **: Reduction of itching**

Grade 5 **: No improvement**

SECONDARY OUTCOME:

The effect of Drugs + Yogam ---

Grade 1 : Turning to normal skin

Grade 2 : Reduction of hyperpigmentation

Grade 3 : Reduction of size and oozing

Grade 4 : Reduction of itching

Grade 5 : No improvement

ADVERSE EFFECT/SERIOUS EFFECT MANAGEMENT:

If the trial patient develops any adverse reactions, he/she would be immediately withdrawn from the trial and proper management will be given in OPD of National Institute of Siddha.

ETHICAL ISSUES

1. The internal drug was mentioned in the List of books of Drugs and Cosmetics Act 1940. Hence no preclinical and toxicity studies will be carried out.
2. The patient will be informed about the treatment and other procedures in his vernacular language. After getting the consent only (language understandable to the patient) they will be enrolled in the study.
3. To prevent any infection, while collecting blood sample from the patient, only disposable syringes, disposable gloves, with proper sterilization of lab equipments will be used.
4. The data collected from the patient will be kept confidential.
5. Treatment will be provided free of cost.
6. If any adverse reactions occur it will be reported to the Pharmaco-vigilance committee of NIS. And they will be advised to take treatment at the OPD of National Institute of Siddha.

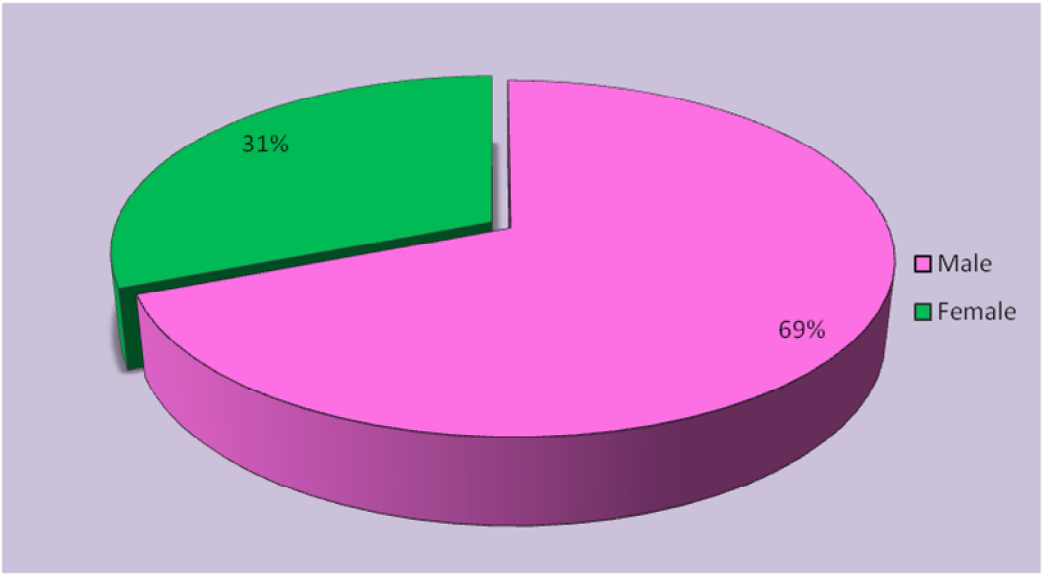
OBSERVATION AND RESULTS

Results were observed with respect to the following criteria.

1. Sex distribution
2. Age distribution
3. Kaalam distribution
4. Noi utranilam
5. Noi utrakaalam
6. Food habits
7. Occupational status
8. Socio economic status
9. Mode of onset
10. Aetiological factors
11. Duration of illness
12. Gunam
13. Site of lesion
14. Clinical features
15. Mukkutra theory
16. Udalthathukkal
17. Ennvagaithervugal
18. Neerkuri, Neikuri
19. Gradation of results

1. **GENDER DISTRIBUTION**

SL. No.	Sex	No. of Cases	Percentage
1.	Male	28	69 %
2.	Female	12	31 %

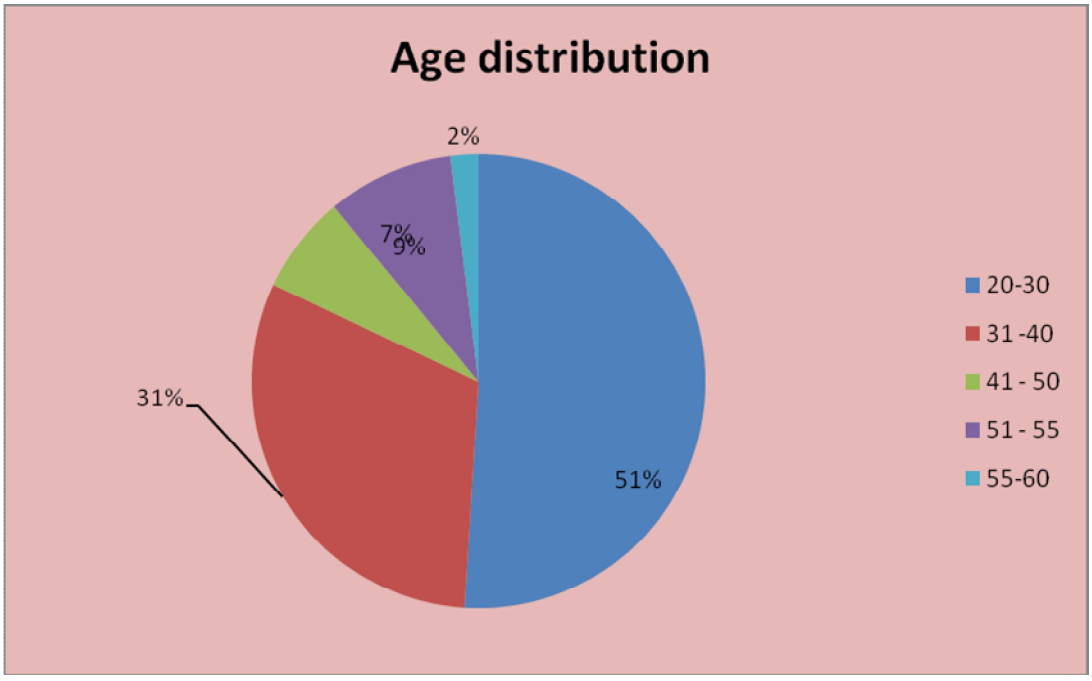


Inference:

Out of 42 patients; 69% belong to male and 31% belong to female.

2.AGE DISTRIBUTION

SI. No.	Age	No. of Cases	Percentage
1.	20-30	22	5 1 %
2.	31 -40	13	3 1 %
3.	41 – 50	3	7%
4.	51 -55	4	9%
5.	56 -60	1	2 %
	TOTAL	42	100 %

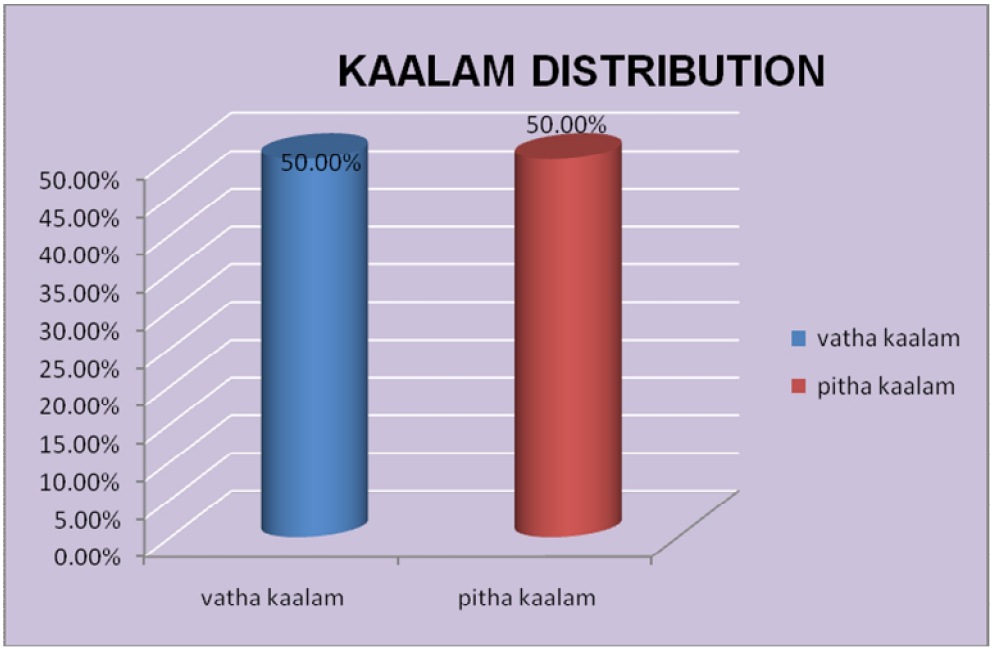


Inference:

Among 42 patients 51% belong to 20-30 years, 31% belong to 31-40 years, 7% belong to 41-50 years and 9% belong to 51-55and 2% belong 55-60.

3. KAALAM DISTRIBUTION

SI. No.	Kaalam	No. of Cases	Percentage
1.	VathaKaalam (1-33 years)	21	50%
2.	PithaKaalam (33-60 years)	21	50%

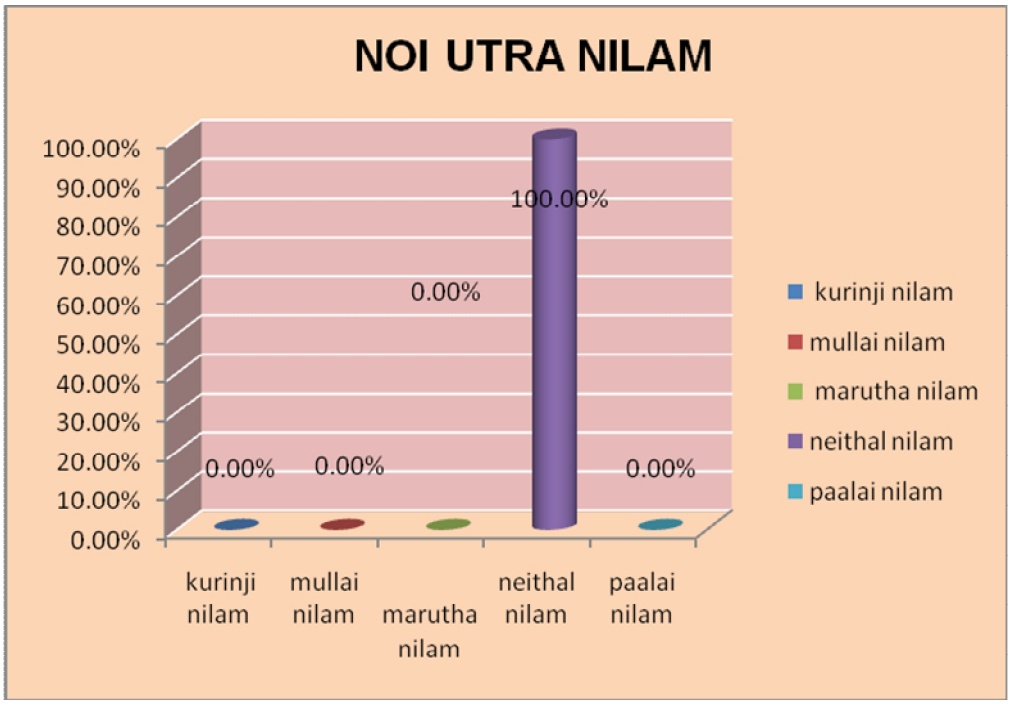


Inference:

Among 42 patients, 50% belong to vathakaalam, 50% pithakaalam.

4. NOI UTRA NILAM:

SI. No.	Thinai	No. of Cases	Percentage
1.	Kurinji	-	-
2.	Mullai	-	-
3.	Marutham	-	-
4.	Neithal	42	100%
5.	Paalai	-	-

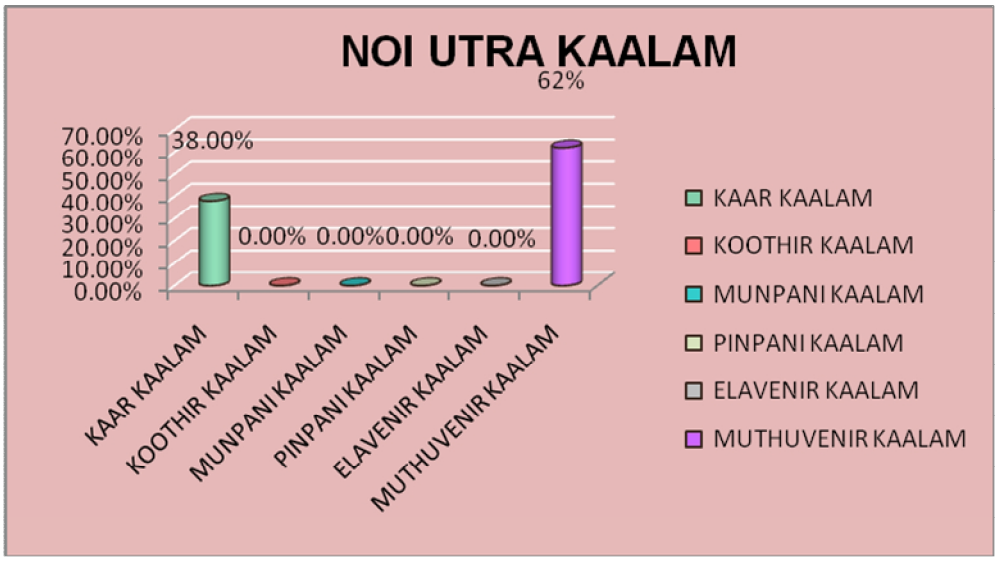


Inference:

Among 42 patients, 100% of patient were from Neithalnilam.

5. NOI UTRA KAALAM:

SI. No.	Paruvakaalam	No. of Cases	Percentage
1.	**Kaarkaalam** Aavani & Purataasi (Aug - Oct)	16	38 %
2.	**Koothirkaalam** Ippasi & Karthigai (Oct - Dec)	-	-
3.	**Munpanikaalam** Markazhi & Thai(Dec - Feb)	-	-
4.	**Pinpanikaalam** Maasi & Panguni (Feb - Apr)	-	-
5.	**Elavenilkaalam** Chithirai & Vaikasi (Apr - Jun)	-	-
6.	**Muthuvenilkaalam** Aani&Aadi) (Jun - Aug)	26	62%

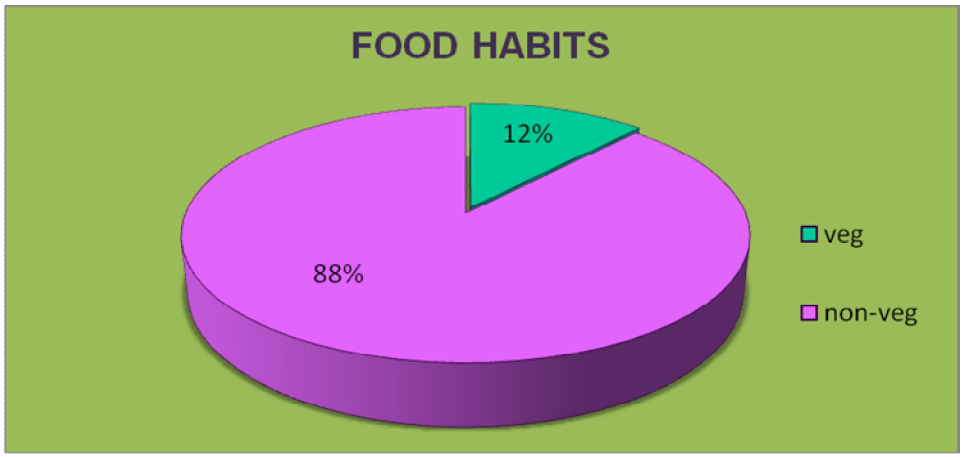


Inference:

Among 42 cases, 62% of the cases had the onset of disease in Muthuvenir kaalam and 38% of cases had the onset of disease in Kaar kaalam.

6. FOOD HABITS:

SI. No.	Food Habits	No. of Cases	Percentage
1.	Vegetarian	5	12%
2.	Non vegetarian	37	88%



Inference

Out of 42 cases 12% belong to vegetarian diet and 88% belong to non-vegetarian diet.

7. SOCIO ECONOMIC STATUS:

SL.No	Socio Economic Status	No. of cases	Percentage
1	Poor	10	14%
2	Middle class	16	38%
3	Rich	16	38%

Inference:

Out of 42 patients, 14% of cases belong to poor socio economic status and 38% of cases belong to Moderate class38 % belongs to rich.

8. OCCUPATIONAL STATUS:

SL. NO	OCCUPATION	No.OF CASES	PERCENTAGE
1	Student	6	15%
2	Home maker	8	19%
3	Coolie	3	7%
4	Software	3	7%
5	Business	5	12%
6	Painter	2	5%
7	Mech.operator	2	5%
8	Yoga teacher	1	2%
9	Accountant	1	2%
10	Cylinder carrier	1	2%
11	Sales executive	2	5%
12	Vector controller	1	2%
13	Postman	1	2%
14	Unemployee	6	15%

Inference

Among 42 cases 15% belong to Student,19%belong to Home maker, 7% belong to coolie ,7%belong to Software,12% belong to Business,5% belong to Painter 5% belong to Mech.operator,2% belong to Yoga teacher,2%belong to Accountant,2%belong to Cylinder carrier,5% belong to Sales executive,2%belong to Vector controller,2%belong to Postman and 15% Unemployees.

9. MODE OF ONSET

SL. No	Mode of onset	No of cases	Percentage
1	Sudden	6	14%
2	Gradual	36	86%

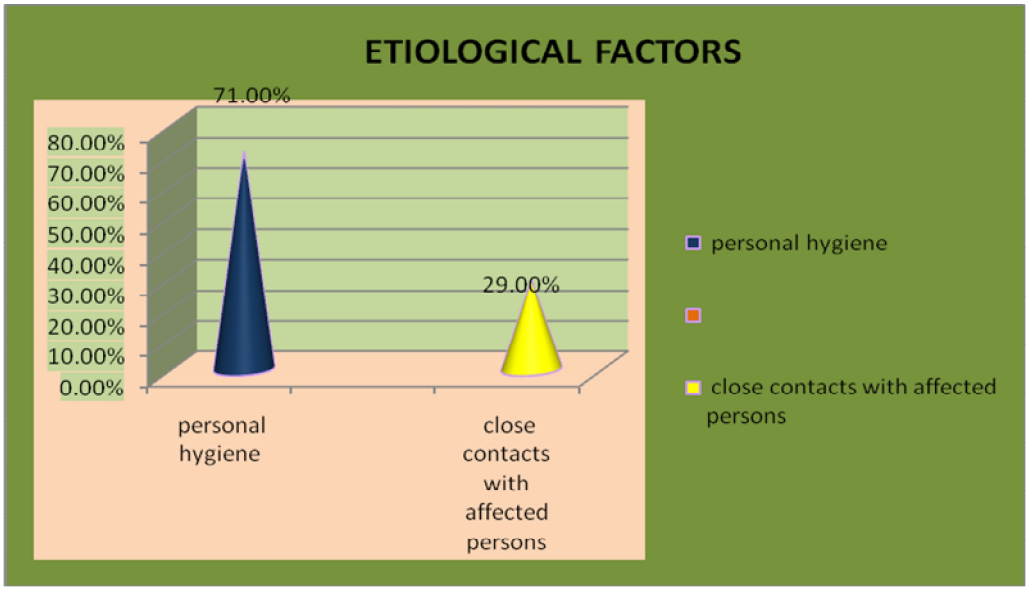
.

Inference:

Out of 42 cases, the mode of onset is Sudden in 14% of the cases and gradual onset in 86% of the case.

10. ETIOLOGICAL FACTORS:

SL. No	Etiological factors	No of cases	Percentage
1	Personal hygiene	30	71%
2	Close contact with affected persons	1 2	29%

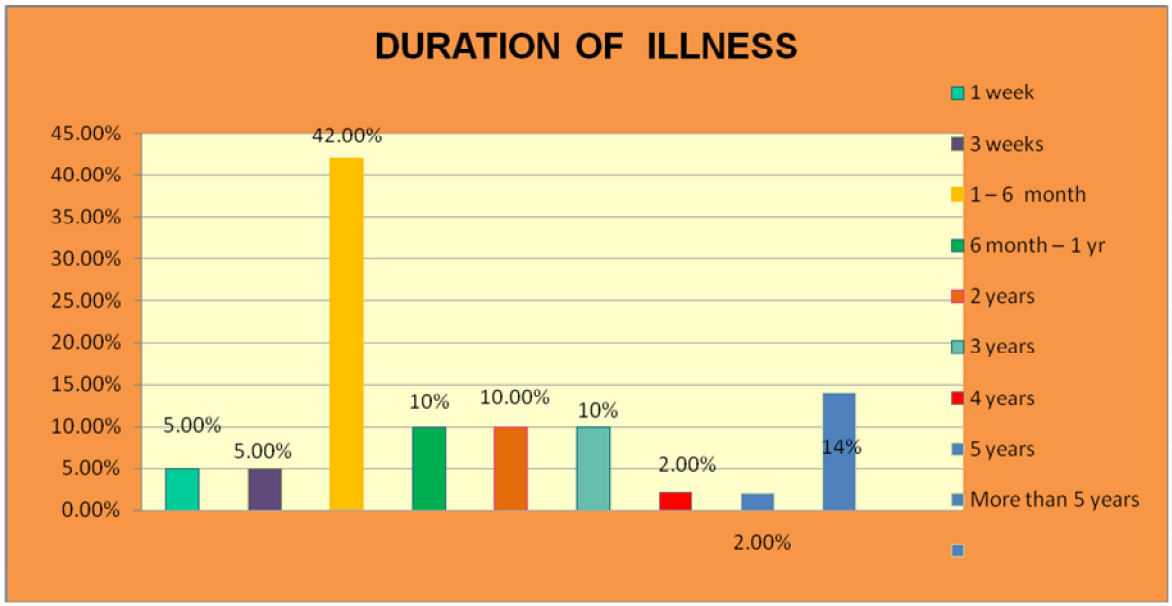


Inference

Among 42 cases, 71% had the etiology of poor personal hygiene and 29% had history of close contact with affected persons.

11. DURATION OF ILLNESS:

SL. No	Duration	No. of Cases	Percentage
1.	1 week	2	5%
2.	3 weeks	2	5%
3.	1 – 6 month	18	42%
4.	6 month – 1 year	4	10%
5.	2 years	4	10%
6	3 years	4	10%
7	4 years	1	2%
8	5 years	1	2%
9	More than 5 years	6	14%



Inference:

Among 42 cases, 5% patients suffered for 1 week,5% patients suffered for 3 week,42% of cases suffered for 1-6 months, 10% of cases for 6 months to 1 year, 10% of cases for 2 years, 10% of cases for 3years, 2% of cases for 4 years and 2% of casessuffered for 5 years and 14% patients suffered for more than 5 years.

12. GUNAM:

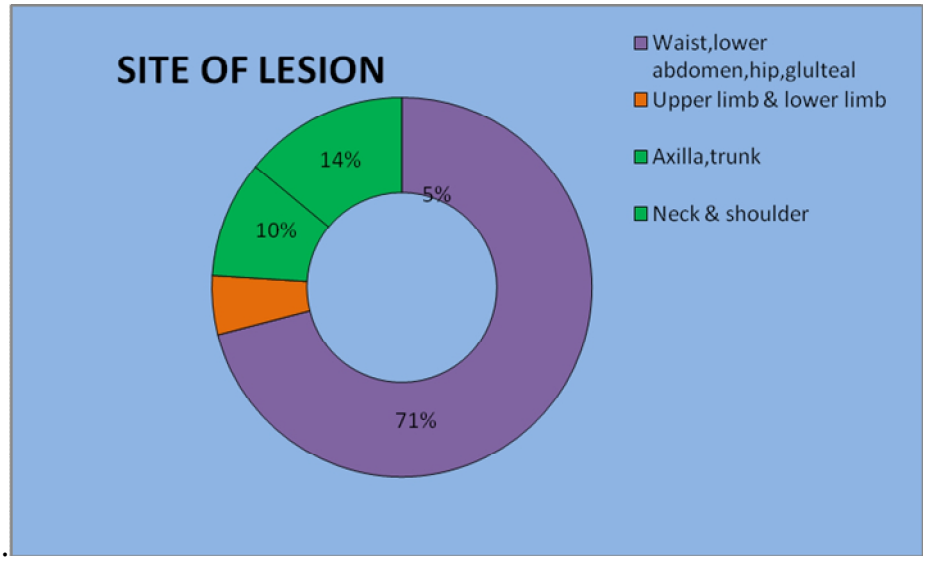
SI. No.	Gunam	No. of Cases	Percentage
1.	**Sathuvagunam**	**-**	**-**
2.	**Rajogunam**	**42**	**100%**
3.	**Thamogunam**	**-**	**-**

.**Inference:**

100% of cases had Rajogunam.

13. SITE OF LESION

SL. No.	Site of lesion	No. of Cases	Percentage
1.	Waist, lower abdomen, hip, thigh, glulteal and groins	30	71%
2.	Upper limb & lower limb	2	5%
3.	Axilla,trunk	4	10%
4.	Neck & shoulder	6	14%

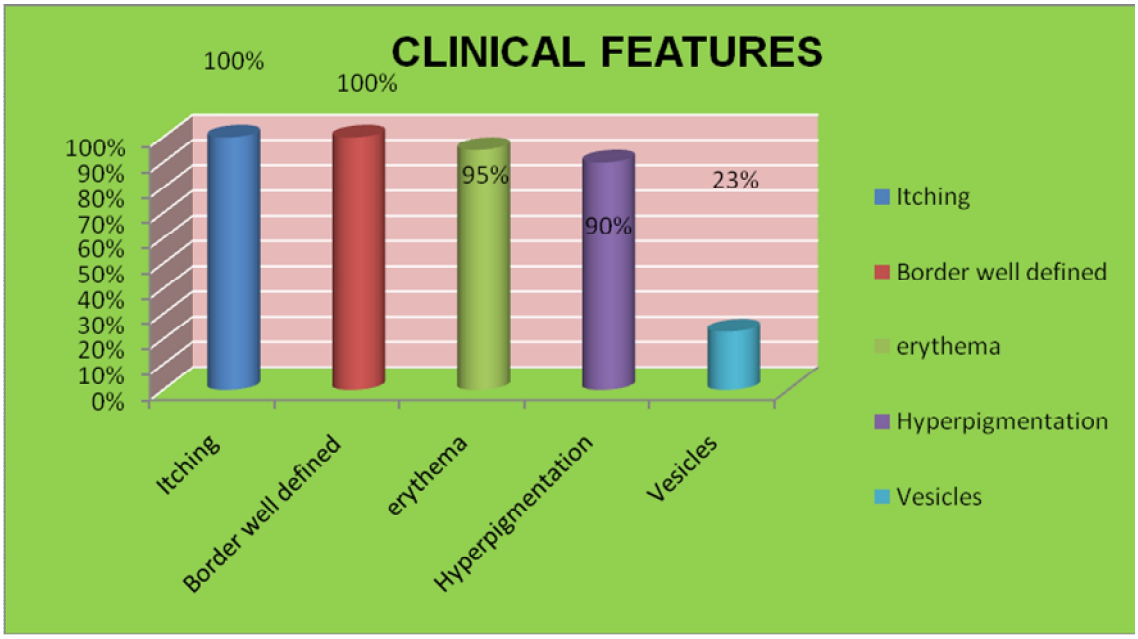


Inference:

Out of 42 cases 71% cases had lesion in waist,lower abdomen,hip,thigh, glulteal and groins.5%had lesion in Upper limb & lower limb,10% in Axilla,trunk,14% in Neck & shoulder region.

14. CLINICAL FEATURES

SI. No.	Clinical features	No. of Cases	Percentage
1.	Itching	42	100%
2.	Border well defined	42	100%
3.	Erythema	40	95%
4.	Hyperpigmentation	38	90%
5.	Vesicles	10	23%



Inference:

Out of 42 cases, 100% had itching, 100% had well defined border, 95% had erythema, 10% had vesicle 90% had pigmentation.

15. THRI THODAM THEORY

According to the Siddha theory, the three chief constituents of the body vatham, pitham and kabam and its classification changes from the normal phenomenon and causes pathological state due to varied aetiology. Hence the derangement of doshams in Pundareegakuttam is tabulated as follows.

a) Table illustrating the derangement of Vatham:

SL. No.	Classification of Vatha	No. of Cases	Percentage
1.	Pranan	-	-
2.	Abanan	-	-
3.	Udhanan	-	-
4.	Samanan	42	100%
5.	Viyanan	42	100%
6.	Nagan	-	-
7.	Koorman	-	-
8.	Kirukaran	-	-
9.	Devathathan	-	-
10.	Dhananjayan	-	-

Inference:

Among 42 patients, 100% of cases had deranged viyanan and samanan.

b) Table illustrating the derangement of Pitham:

SL .No.	Classification of Pitham	No. of Cases	Percentage
1.	Anarpitham	-	-
2.	Ranjagam	-	-
3.	Sathagam	-	-
4.	Alosagam	-	-
5.	Prasagam	42	100%

Inference

Among 42 patients, 100% of cases had deranged prasagam

16. UDALTHATHUKKAL

SL .No.	Udalthathukkal	No. of Cases	Percentage
1.	Saaram	42	100%
2.	Senneer	42	100%
3.	Oon	-	-
4.	Kozhuppu	-	-
5.	Enbu	-	-
6.	Moolai	-	-
7.	Sukkilam / Suronitham	-	-

Inference:

Out of 42 cases, 100% of the cases had derangement in saaram and senneer.

17. EN VAGAI THERVUGAL

SL . No.	EnnvagaiThervugal	No. ofCases	Percentage
1.	Naadi		
	Vatha Pitham	20	48 %
	Pitha Vatham	7	16 **%**
	Vatha Kapham	12	29 %
	Pitha kabam	1	2%
2.	Sparisam	-	-
3.	Naa	-	-
4.	Niram	40	100%
5.	Mozhi	-	-
6.	Vizhi	-	-
7.	Malam	-	-
8.	Moothiram	-	-

Inference:

48 % of the cases had VathaPitham. 16% of the cases had Pitha Vatham 29 % of the cases had Vatha Kapham 2% of the cases had Pithakabam.

18. NEERKURI, NEIKURI

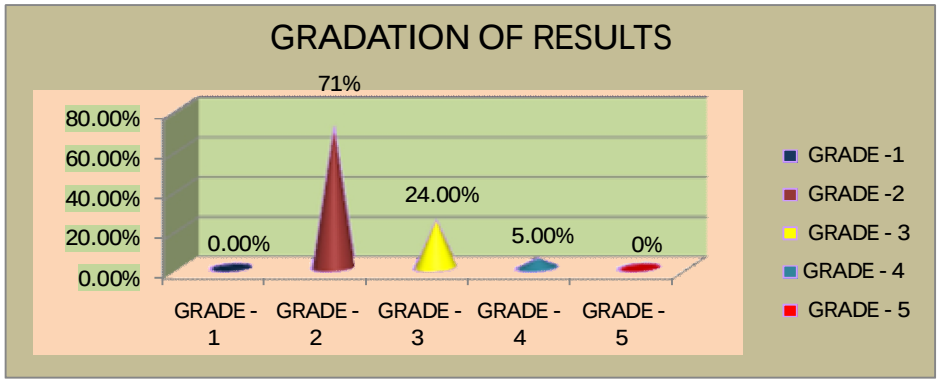
SL. No.	Type of Test		No. of Cases	Percentage
1.	**Neerkuri :**	Straw colored urine	18	100%
2.	**Neikuri**	Iyya Neer Vali Neer Azhal Neer	16 2 -	88% 12% -

Inference:

Out of 18 cases, 100% of the cases had Straw coloured urine. 88% had shown Iyya Neer,2% had shown Vali Neer.

19. A. GRADATION OF RESULTS.

SL. No.	Grade	No. of Cases	Percentage
1	**Grade – 1 Turning to normal skin**	**-**	**-**
2	**Grade – 2 Reduction of hyperpigmentation**	**30**	**71%**
3	**Grade – 3 Reduction of size and oozing**	**10**	**24%**
4	**Grade – 4 Reduction of itching**	**2**	**5%**
5	**Grade – 5 No improvement**	**-**	**-**

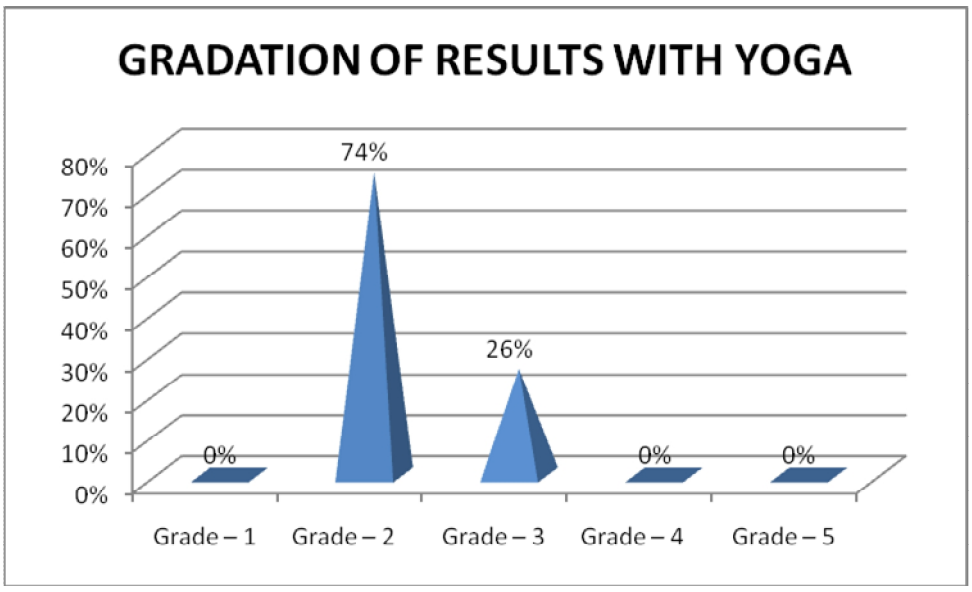


Inference:

Out of 42 cases results of 71% cases were Grade - 2 (Reduction of hyper pigmentation), 24% of the cases were Grade – 3 (Reduction of size and oozing) and 5% of the cases were Grade – 4 (Reduction of itching).

B.GRADATION OF RESULT WITH YOGA:

SL. No.	Grade	No. of Cases	Percentage
1	Grade – 1 Turning to normal skin	-	-
2	Grade – 2 Reduction of hyperpigmentation	7	74%
3	Grade – 3 Reduction of size and oozing	3	26%
4	Grade – 4 Reduction of itching	-	-
5	Grade – 5 No improvement	-	-



Inference:

Out of 10 patients 74% cases were Grade-2 (Reduction of hyperpigmentation), 26% of the cases were Grade – 3 (Reduction of size and oozing).

LIST OF OUT PATIENTS BEFORETREATMENT :

S No	Pt No	Name	Age / Sex	Hb gm/dl	T.WBC cu/mm	DC cells/cumm			Total RBC	ESR ½ hr	Blood sugar			BUrea mg / dl	S creatinine mg / dl	Urine		Deposit	
						P	L	E			F	PP	RN			Alb	Sug	PC	EC
1	C 92828	Mr. John Kannan	52 – M	13.1	6600	68	27	5	4.1	14 / 32	91	105	-	17	0.5	Nil	Nil	2-4	2-4
2	C 64146	Miss. Sudha	23 – F	12	7400	59	30	11	4	6 / 12	92	-	-	14	0.4	Nil	Nil	4-5	4-5
3	C 92019	Mr. Kumar	40 – M	13.4	8200	58	36	4	4.7	2 / 4	109	-	-	22	0.6	Nil	Nil	2-4	1-2
4	C 91410	Mrs. Ramalakshni	40 – F	12.7	8700	69	27	4	3.9	6 / 12	106		-	17	0.5	Nil	Nil	1-2	1-2
5	C 30763	Mr. Ranjith Kumar	27 – M	14.7	7000	59	36	5	4.5	2 / 6	108	127		21	0.6	Nil	Nil	2-4	2-4
6	C 78775	Mr. Siva Subramaniyam	33 – M	15.3	6600	69	25	6	4.8	2 / 6	-	-	90	23	0.7	Nil	-	1-2	2-3
7	C 72487	Mr. Raj	40 – M	14.8	5600	64	29	7	4.9	2 / 6	-	-	97	19	0.7	Nil	Nil	1-2	2-4
8	C 68940	Mrs. Mubeen Sultana	40 – F	11.8	6800	65	30	5	4.4	2 /4	-	-	111	20	0.7	Nil	Nil	2-4	2-4
9	C 70211	Mrs. Yasmin	34 – F	11.7	9200	75	20	5	4.1	6 /16	-	-	78	14	0.5	Nil	Nil	3-4	4-5
10	C 80444	Mr. Sriram	23 – M	14	9500	59	33	8	4.8	4 /8	100	130		23	0.7	Nil	Nil	Nil	Nil
11	C 97004	Mr. Murgan	27 – M	15.3	7900	43	53	4	4.5	2 / 6	-	-	101	14	0.4	Nil	Nil	2-4	2-4
12	C 84357	Mrs. Chitra	38 – F	12.6	5000	66	29	5	4.3	4 /12	94	123		16	0.5	Nil	Nil	1-2	2-3
13	D 16	Mr. Maharaj	20 – F	15.1	8500	75	21	4	5.1	2 /4	-	-	78	14	0.4	Nil	Nil	-	-
14	C 99266	Mr. Balamanikandan	20 – M	16.3	6900	60	37	3	4.8	2 /4	-	-	82	23	0.7	Nil	Nil	-	-
15	C 93334	Mr. Elumalai	34 – M	14.1	6000	56	39	5	5.1	2 /8	108	140		14	0.4	Nil	Nil	2-4	2-4
16	D 1799	Mr. Sasivijay	36 – M	14.6	8400	60	33	5	4.9	2 /4	82	106		27	0.8	Nil	Nil	1-2	1-2
17	C 82615	Mrs. NameethaBanu	36 – F	10.2	8500	60	36	4	4.7	6 / 12	88	116		19	0.6	Nil	Nil	2-4	2-4
18	C 85452	Mr. Kumaresan	27 – M	16.1	6800	66	30	4	5.2	2 / 4	-	-	96	20	0.7	Nil	Nil	2-4	2-4

S No	Pt No	Name	Age / Sex	Hb gm/dl	T.WBC cu/mm	DC cells/cumm			Total RBC	ESR ½ hr	Blood sugar			BUrea mg / dl	S creatinine mg / dl	Urine		Deposit	
						P	L	E			F	PP	RN			Alb	Sug	PC	EC
19	C 77901	Mr. Selvam	45 – M	14.2	7300	71	22	7	5.3	2 / 4	-	-	102	39	0.9	Nil	Nil	2-4	2-4
20	C 94150	Mr. Nagaraj	23 - M	17.1	10400	66	30	4	5.7	2 / 6	83	116	89	30	0.8	Nil	Nil	2-4	2-4
21	C 62685	Mr. Suresh	27 – M	15.1	11200	66	30	4	5.1	6 /14	-	-	108	14	0.4	Nil	Nil	2-4	1-2
22	C 82772	Mr. Maheshkumar	23 – M	15.4	7700	39	49	1	5.4	2 /4	80	104	-	16	0.5	Nil	Nil	1-2	2-3
23	C 82618	Mr. Jalaludeen	42 – M	16	9800	61	32	7	5.4	2 /4	-	-	85	30	0.9	Nil	Nil	1-2	1-2
24	AQ6949	Mr. Gopikrishna	23 - M	15.9	5700	56	41	3	4.9	2 /6	80	90	-	15	0.5	Nil	Nil	1-2	1-2
25	C 80305	Mr. Dhanagopal	24 – M	16.2	6700	58	37	5	5.8	2 /6	76	109	-	20	0.7	Nil	Nil	1-2	2-3
26	C 74783	Mrs. Anbukarasi	46 – F	13.3	8200	65	31	4	4.3	42 /84	73	84	-	18	0.6	Nil	Nil	2-4	2-4
27	C 88582	Miss. LenyJannet	22 – F	13.3	14700	75	20	5	4.5	4 /16	-	-	91	16	0.5	Nil	Nil	1-2	1-2
28	C 58591	Mr. Selvam	40 – M	16.4	6600	59	36	5	5.3	2 /4	92	107	-	17	0.5	Nil	Nil	3-4	2-4
29	C 79617	Mrs. Gajalakshmi	40 - F	12.9	9500	63	33	4	4.5	2 /4	-	-	116	18	0.6	Nil	Nil	1-2	2-3
30	C 88672	Mr. Seenu	22 – M	16	8500	55	37	8	5.2	2 /4	-	-	90	21	0.7	Nil	-	3-4	2-3

LIST OF OUT PATIENTS AFTER TREATMENT :

S No	Pt No	Name	Age / Sex	Hb gm/dl	T.WBC cu/mm	DC cells/cumm			Total RBC	ESR ½ hr	Blood sugar			BUrea mg / dl	S creatinine mg / dl	Urine		Deposit	
						P	L	E			F	PP	RN			Alb	Sug	PC	EC
1	C 92828	Mr. John Kannan	52 – M	13.6	6700	65	25	5	4.2	6 / 12	98	110	-	16	0.4	Nil	Nil	1-2	1-3
2	C 64146	Miss. Sudha	23 – F	12.5	8500	66	30	4	4.1	10 / 34	84	-	-	16	0.5	Nil	Nil	1-2	1-2
3	C 92019	Mr. Kumar	40 – M	12.8	8400	62	39	3	4.8	1 / 2	-	-	98	20	0.5	Nil	Nil	1-2	1-3
4	C 91410	Mrs. Ramalakshni	40 – F	12.6	8800	67	25	5	4.2	3 / 6	102	-	-	18	0.3	Nil	Nil	1-2	1-2
5	C 30763	Mr. Ranjith Kumar	27 – M	14.6	7200	62	37	4	4.4	1 / 3	104	124	-	18	0.3	Nil	Nil	1-2	1-2
6	C 78775	Mr. Siva Subramaniyam	33 – M	15.2	9400	72	26	2	4.7	4 /10	-	-	100	20	0.9	Nil	Nil	1-2	2-4
7	C 72487	Mr. Raj	40 – M	15.3	6100	55	38	7	5.1	4 / 8	110	119	-	14	0.4	Nil	Nil	2-4	2-4
8	C 68940	Mrs. Mubeen Sultana	40 – F	12.1	6900	83	14	3	4.5	6 /14	-	-	110	19	0.8	Nil	Nil	1-2	2-3
9	C 70211	Mrs. Yasmin	34 – F	12.3	9600	72	20	6	4.3	3 / 6	-	-	92	14	0.4	Nil	Nil	1-2	1-2
10	C 80444	Mr. Sriram	23 – M	14.2	9400	62	38	5	4.5	2 / 4	-	-	90	29	0.9	Nil	Nil	Nil	Nil
11	C 97004	Mr. Murgan	27 – M	15	8000	46	42	6	4.3	1 /3	-	-	98	18	0.3	Nil	Nil	1-2	2-3
12	C 84357	Mrs. Chitra	38 – F	13.2	5700	70	25	5	4.5	4 / 8	101	-		14	0.4	Nil	Nil	1-2	2-3
13	D 16	Mr. Maharaj	20 – F	16	8900	49	20	5	5.2	1 /2	-	-	80	16	0.5	Nil	Nil	-	-
14	C 99266	Mr. Balamanikandan	20 – M	16	6800	62	38	5	4.9	1 / 2	-	-	89	24	0.5	Nil	Nil	-	-
15	C 93334	Mr. Elumalai	34 – M	14.4	6200	58	40	5	5.6	1 /2	100	128		14	0.3	Nil	Nil	2-4	-
16	D 1799	Mr. Sasivijay	36 – M	14.4	8900	63	30	8	4.6	1 /2	-	-	98	32	0.7	Nil	Nil	1-2	1-2
17	C 82615	Mrs. NameethaBanu	36 – F	10.8	9700	61	36	3	4.9	3 /6	-	-	80	22	0.5	Nil	Nil	1-2	1-2
18	C 85452	Mr. Kumaresan	27 – M	15.6	6400	63	33	4	4.9	2 / 4	-	-	101	19	0.5	Nil	Nil	1-2	1-2

S No	Pt No	Name	Age / Sex	Hb gm/dl	T.WBC cu/mm	DC cells/cumm			Total RBC	ESR ½ hr	Blood sugar			BUrea mg / dl	S creatinine mg / dl	Urine		Deposit	
						P	L	E			F	PP	RN			Alb	Sug	PC	EC
19	C 77901	Mr. Selvam	45 – M	14	9200	58	30	5	5.3	3 /6	98	111	-	30	0`7	Nil	Nil	1-4	-
20	C 94150	Mr. Nagaraj	23 - M	16.4	8400	66	28	6	5.4	1 / 3	94	110	86	32	0.9	Nil	Nil	1-2	1-2
21	C 62685	Mr. Suresh	27 – M	15	11000	65	32	6	5.4	3 /6	-	-	108	12	0.3	Nil	Nil	1-2	2-3
22	C 82772	Mr. Maheshkumar	23 – M	15	8000	42	28	-	4.8	1 /2	-	-	94	19	0.6	Nil	Nil	1-2	-
23	C 82618	Mr. Jalaludeen	42 – M	15.8	9000	58	39	3	5.3	2 / 4	-	-	82	19	0.5	Nil	Nil	1-2	1-2
24	AQ6949	Mr. Gopikrishna	23 - M	16.8	5900	55	39	6	5.1	2 / 4	103	121		14	0.4	Nil	Nil	2-4	3-5
25	C 80305	Mr. Dhanagopal	24 – M	16	7200	62	39	6	4.9	2 /3	-	-	94	36	0.3	Nil	Nil	-	1-3
26	C 74783	Mrs. Anbukarasi	46 – F	12.5	6200	58	39	3	4.1	6 /20	92	100		14	0.4	Nil	Nil	1-2	1-2
27	C 88582	Miss. LenyJannet	22 – F	13.6	14600	60	25	6	4.4	2 /8	-	-	100	18	0.3	Nil	Nil	1-2	1-3
28	C 58591	Mr. Selvam	40 – M	16.2	6800	60	35	6	5.4	1 /2	-	-	92	18	0.4	Nil	Nil	3-4	1-2
29	C 79617	Mrs. Gajalakshmi	40 - F	12.3	8600	68	35	5	4.4	1 /2	-	-	110	19	0.7	Nil	Nil	-	1-2
30	C 88672	Mr. Seenu	22 – M	15.8	8800	56	39	7	5.4	1 /2	-	-	92	23	0.5	Nil	-	1-2	2-3

LIVER FUNCTION TESTS

S No	Pt No	Name	Tot Bilirubin		DirBilurubin		IndBilurubin		SGOT		SGPT		ALP	
			BF	AF	BF	AF	BF	AF	BF	AF	BF	AF	BF	AF
1	C 92828	Mr. John Kannan	0.5	0.4	0.2	0.3	0.3	0.2	10	28	9	18	130	186
2	C 64146	Miss. Sudha	0.3	0.4	0.2	0.2	0.1	0.2	32	17	24	19	175	161
3	C 92019	Mr. Kumar	0.5	0.8	0.2	0.1	0.3	0.2	30	32	31	34	179	186
4	C 91410	Mrs. Ramalakshni	0.5	0.4	0.2	0.1	0.3	0.5	14	16	15	18	140	185
5	C 30763	Mr. Ranjith Kumar	0.4	0.5	0.2	0.1	0.2	0.2	21	20	23	26	152	184
6	C 78775	Mr. Siva Subramaniyam	0.8	0.6	-	-	-	-	17	28	18	20	212	168
7	C 72487	Mr. Raj	0.6	0.6	0.2	0.2	0.1	0.4	29	12	30	13	169	146
8	C 68940	Mrs. Mubeen Sultana	0.7	0.5	-	-	-	-	19	25	20	26	184	158
9	C 70211	Mrs. Yasmin	0.5	0.5	0.2	0.2	0.1	0.3	43	18	36	17	187	160
10	C 80444	Mr. Sriram	0.4	0.5	-	-	-	-	30	36	56	32	197	186
11	C 97004	Mr. Murgan	0.8	0.7	0.5	0.6	0.3	0.2	16	18	18	21	165	186
12	C 84357	Mrs. Chitra	0.5	0.6	0.2	0.2	0.3	0.4	30	29	35	30	196	158
13	D 16	Mr. Maharaj	0.7	0.6	0.3	0.2	0.4	0.3	15	18	17	16	175	184
14	C 99266	Mr. Balamanikandan	1.9	1.8	0.7	0.6	1.2	1.0	24	26	26	28	185	187
15	C 93334	Mr. Elumalai	0.6	0.5	0.2	0.4	0.4	0.2	13	12	15	13	146	142
16	D 1799	Mr. Sasivijay	0.5	0.6	0.2	0.1	0.1	0.2	28	32	16	30	152	182
17	C 82615	Mrs. NameethaBanu	0.4	0.3	0.2	0.4	0.2	0.5	15	21	18	28	240	180
18	C 85452	Mr. Kumaresan	0.6	0.4	0.3	0.2	0.3	0.2	16	28	17	29	145	149

S No	Pt No	Name	Tot Bilirubin		DirBilurubin		IndBilurubin		SGOT		SGPT		ALP	
			BF	AF	BF	AF	BF	AF	BF	AF	BF	AF	BF	AF
19	C 77901	Mr. Selvam	0.6	-	0.2	-	0.4	-	24	-	25	-	136	-
20	C 94150	Mr. Nagaraj	0.8	0.8	0.9	0.6	0.8	0.5	28	25	30	27	90	150
21	C 62685	Mr. Suresh	0.5	0.6	0.2	0.1	0.3	0.2	30	28	31	25	180	182
22	C 82772	Mr. Maheshkumar	0.5	0.4	0.2	0.1	0.3	0.2	14	19	15	23	166	186
23	C 82618	Mr. Jalaludeen	0.5	0.5	0.2	0.2	0.3	0.3	17	21	19	22	159	143
24	AQ6949	Mr. Gopikrishna	0.9	0.9	0.3	0.3	0.6	0.6	24	25	25	26	198	168
25	C 80305	Mr. Dhanagopal	0.6	0.3	-	0.2	-	-	41	38	39	30	204	184
26	C 74783	Mrs. Anbukarasi	0.3	0.4	0.2	0.2	0.1	0.2	18	20	20	22	219	177
27	C 88582	Miss. LenyJannet	0.6	0.5	0.2	0.3	0.4	0.3	12	16	14	18	143	168
28	C 58591	Mr. Selvam	0.5	0.3	0.2	0.1	0.3	0.3	23	28	25	28	175	178
29	C 79617	Mrs. Gajalakshmi	0.8	0.6	-	-	-	-	10	34	15	38	40	184
30	C 88672	Mr. Seenu	0.4	0.2	0.2	0.1	0.2	0.2	30	32	31	38	187	158

LIST OF IN PATIENTS BEFORE TREATMENT:

S No	IP No	Name	Age / Sex	Hb gm/dl	T.WBC cu/mm	DC cells/cumm			Total RBC	ESR ½ hr	Blood sugar			BUrea mg / dl	S creatinine mg / dl	Urine		Deposit	
						P	L	E			F	PP	RN			Alb	Sug	PC	EC
1	5012	Mr. Balaji	22 - M	15.8	7100	65	25	10	5.5	4 / 8	-	-	81	32	0.9	Nil	Nil	-	-
2	3290	Mr. Balakrishnan	52 – M	14.7	6700	60	32	8	4.5	6 / 14	104	131	-	22	0.7	Nil	Nil	2- 4	1- 3
3	5050	Mr. Tamilarasan	20 – M	13.6	6200	56	28	8	4	2 / 8	82	99	-	18	0.7	Nil	Nil	1-2	2-4
4	5035	Mr. Rajan	58 – M	13.3	9000	63	32	5	4.6	2 / 4	81	96	-	32	0.8	Nil	Nil	2-4	2-4
5	5014	Mr. Rajkamal	23 – M	14.6	5400	42	47	11	4.7	2 / 6	-	-	92	31	0.9	Nil	Nil	-	-
6	4975	Mr. Karthick	20 – M	13.7	12000	70	25	5	5.1	4 / 10	72	83	-	21	0.6	Nil	Nil	-	-
7	5049	Mr. Shanmugam	22 – M	15.3	5200	61	34	5	5.3	4 / 8	99	120		15	0.4	Nil	Nil	2-4	2-4
8	5006	Mr. Periyasami	22 – M	15.3	6700	60	44	6	5	2 / 4	-	-	98	14	0.4	Nil	Nil	1-2	2-4
9	5780	Mr. Muniyandi	54 – M	13.8	5800	58	43	5	7	6/12	100	123	-	15	0.6	Nil	Nil	2-3	2-4
10	5034	Mr. Rahul	21 – M	16.2	8300	68	26	6	5.1	2 / 4	85	114	-	15	0.4	Nil	Nil	1-2	1-2
11	4053	Mrs. Jeyanthi	40 – F	9.3	6900	68	24	6	4.2	2 / 6	83	112	-	17	0.6	Nil	Nil	1-2	1-2
12	4949	Mr. BanerjiRao	60 – M	12.8	7200	60	36	4	4.2	2 / 4	87	103	-	21	0.6	+ +	Nil	2-4	2-4

LIST OF IN PATIENTS AFTER TREATMENT:

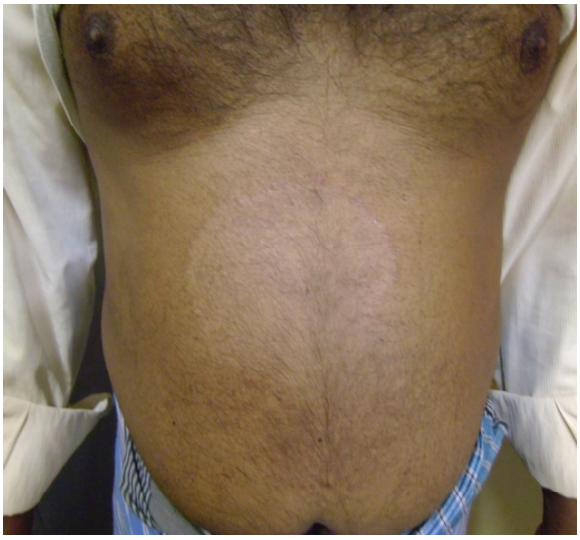
S No	Pt No	Name	Age / Sex	Hb gm/dl	T.WBC cu/mm	DC cells/cumm			Total RBC	ESR ½ hr	Blood sugar			BUrea mg / dl	S creatinine mg / dl	Urine		Deposit	
						P	L	E			F	PP	RN			Alb	Sug	PC	EC
1	5012	Mr. Balaji	22 - M	15.2	7800	66	28	6	5.4	2 / 4	-	-	96	36	0.7	Nil	Nil	-	-
2	3290	Mr. Balakrishnan	52 – M	14.9	7200	68	35	4	5.1	2 / 6	-	-	98	28	0.9	Nil	Nil	1-3	1-2
3	5050	Mr. Tamilarasan	20 – M	9.8	6000	55	39	5	4.2	1 / 4	93	103	-	21	0.6	Nil	Nil	1-2	2-3
4	5035	Mr. Rajan	58 – M	13	9200	60	30	6	4.3	2 / 2	90	109	-	30	0.8	Nil	Nil	2-4	1-2
5	5014	Mr. Rajkamal	23 – M	14.2	6200	38	42	11	4.9	1 / 3	-	-	98	32	0.8	Nil	Nil	-	-
6	4975	Mr. Karthick	20 – M	12.8	12000	72	25	4	5.2	2 / 5	75	100	-	22	0.8	Nil	Nil	-	-
7	5049	Mr. Shanmugam	22 – M	14.6	6300	60	35	5	4.9	2 / 10	88	106	-	17	0.8	Nil	Nil	2-3	1-2
8	5006	Mr. Periyasami	22 – M	15	7000	66	46	5	4.8	1 / 2	-	-	103	16	0.5	Nil	Nil	1-2	-
9	5780	Mr. Muniyandi	54 – M	15	6780	65	45	5	4.9	1/2	98	120	-	15	0.6	Nil	Nil	1-4	1-3
10	5034	Mr. Rahul	21 – M	15.8	8200	67	28	5	5	1 / 2	86	110	-	14	0.2	Nil	Nil	1-2	2-4
11	4053	Mrs. Jeyanthi	40 – F	9.2	6800	62	29	9	4.4	1 / 6	96	-	-	22	0.9	Nil	Nil	1-2	2-3
12	4949	Mr. BanerjiRao	60 – M	11.5	6800	55	42	3	4.5	6 / 16	102	112	-	20	0.5	+	Nil	2-4	2-4

LIVER FUNCTION TESTS

S No	Pt No	Name	Tot Bilirubin		DirBilurubin		IndBilurubin		SGOT		SGPT		ALP	
			BF	AF	BF	AF	BF	AF	BF	AF	BF	AF	BF	AF
1	5012	Mr. Balaji	0.5	0.4	0.2	0.3	0.3	0.5	30	32	31	35	185	186
2	3290	Mr. Balakrishnan	0.6	0.5	0.2	0.2	0.4	0.3	30	28	34	32	198	185
3	5050	Mr. Tamilarasan	0.8	0.9	0.5	0.5	0.2	0.2	28	18	30	21	190	184
4	5035	Mr. Rajan	0.5	0.6	0.2	0.1	0.3	0.3	16	17	17	16	151	160
5	5014	Mr. Rajkamal	0.6	0.5	0.2	0.1	0.4	0.2	15	16	16	18	152	184
6	4975	Mr. Karthick	0.5	0.7	0.2	0.3	0.3	0.5	12	18	16	19	254	240
7	5049	Mr. Shanmugam	0.6	0.4	0.2	0.2	0.4	0.2	18	28	19	29	170	176
8	5006	Mr. Periyasami	1.3	0.8	0.7	0.8	0.6	0.3	28	35	31	28	178	186
9	5780	Mr. Muniyandi	0.9	0.7	0.6	0`8	0.5	0.5	30	30	28	29	177	180
10	5034	Mr. Rahul	1.1	1.0	0.5	0.4	0.6	0.5	52	54	66	66	117	118
11	4053	Mrs. Jeyanthi	0.7	0.9	0.2	0.5	0.2	0.6	31	36	24	28	194	185
12	4946	Mr. BanerjiRao	0.5	0.3	0.2	0.1	0.3	0.3	29	28	28	27	176	160

BEFORE TREATMENT

AFTER TREATMENT



OP/IP NO:C82618
NAME:JALALUDIN
AGE/SEX:42/M

OP/IP NO:C82772
NAME:MAGESHKUMAR
AGE/SEX:23/M

BEFORE TREATMENT

AFTER TREATMENT

OP/IP NO: C28304
NAME: VINOTH
AGE/SEX: 30/M

OP/IP NO: AQ6949
NAME: GOPIKRISHNA
AGE/SEX: 21/M

BEFORE TREATMENT

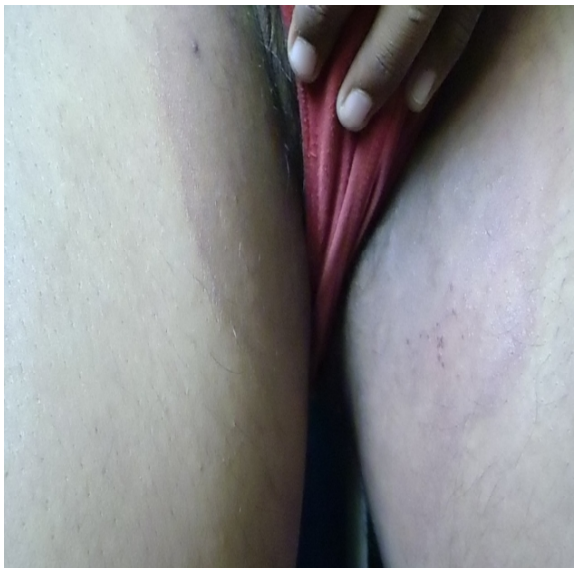
AFTER TREATMENT

OP/IP NO: C82615
NAME: NAMEETHA
AGE/SEX: 36/F

OP/IP NO: 4972
NAME: KARTHICK
AGE/SEX: 21/M

BEFORE TREATMENT

AFTER TREATMENT



OP/IP NO: C88692
NAME: SEENU
AGE/SEX: 22/M

OP/IP NO: C68940
NAME: MUBEEN
AGE/SEX: 40/F

DISCUSSION

The clinical entity of Padar Thamari is more or less similar to that of Tinea infection in modern medicine. It is a dermatological condition which is characterized by hyperpigmented well defined patch or patches of scaling, vesicles and pustules with inflammation most marked at the periphery of the lesion and the lesions are spreading in nature like an orbicular lotus leaf. Anatomy and physiology of skin and aetiology, clinical features etc., of the disease are discussed.

Author collected information largely from *'Siddha Maruthuvam – Sirappu'*, *'Gurunaadi nool'*, *'Dhanvanthri Vaidhyam'* and *'Agathiyar Kanma Kaandam'* in which the Siddha methods of diagnosis have been dealt with. Before and after the course of treatment, the patients were subjected to laboratory investigations and photographs were taken.

ETIOLOGY:

The causative factors of the disease can be found out from the history given by the patients, their diet, habits, occupation, mental stress and other signs and symptoms. The present study shows the disease is caused due to poor hygiene.

GENDER DISTRIBUTION:

Out of 42 patients 69% belongs to male 31% belongs to female.

AGE DISTRIBUTION:

Among 42 patients 51% belongs to 20-30 years, 31% belongs to 31-40 years, 7% belongs to 41-50 years, 9% belongs to 51- 55 years,2% belongs to 55-60 years

DIETARY HABITS:

Out of 42 cases 12% belongs to vegetarian diet and 88% belongs to non-vegetarian diet.

KAALAM DISTRIBUTION:

Among 42 cases 50% belong to Vatha kaalam 50% belong to Pitha kaalam.

OCCUPATIONAL DISTRIBUTION:

Among 42 cases 15% belongs to student,19% belongs to home maker,7% belongs to software,12% belongs to mech. Operator,2% belongs to yoga teacher, 2% belongs to cylindrical carrier,5% belongs to sales executive,2% belongs to vector controller, 2% belongs to postman,15% are unemployees.

SOCIO-ECONOMIC DISTRIBUTION:

Among 42 cases 14% belongs to poor socio economic status,38% belongs to moderate,38% belongs to rich socio economic status.

MODE OF ONSET:

Out of 42% cases 14% are sudden onset,86% are of gradual onset

ETIOLOGICAL DISTRIBUTION:

Out of 42 patient 71% are affected by personal hygiene,29% by close contact.

DURATIONAL DISTRIBUTION:

Among 42 cases 5% are suffered for 1 week,5% for 3 week,42% for 1-6 months,10% for 2years,10% for 3years,2% for 4 years,2% for 4 years,14%for more than 5 years.

SYMMETRY DISTRIBUTION:

5% in upper and lower limb,7% in waist,hip thigh gluteal region,10% in axilla, trunk,14% in neck and shoulder

NOI UTRA KAALAM:

Among 42 cases, 62% of the cases had the onset of disease in Muthuvenir kaalam and 38% of cases had the onset of disease in Kaar kaalam.

NOI UTRA NILAM:

Among 42 cases, 100% of patients were admitted to the trial from neithal.

REFERENCE OF MUKKUTRAM

1. VATHAM

Viyanan and Samanan were affected in all the cases (100%).

2. PITHAM

In all the 42 (100 %) patients, Prasakam was affected. Prasakam is responsible for the complexion of the skin.

3. KABAM

Changes reported in kabam in all the 42 patients.

UDAL KATTUGAL:

Saaram and Senneer which are responsible for the colour of the skin were affected in all the 42 (100 %) cases.

ENVAGAI THERVUGAL:

Niram was affected in all the 42 (100 %) cases.

GRADATION OF RESULTS AFTER TREATMENT:

Out of 42 cases results of 71% cases were Grade – 2(Reduction of hyperoigmentation), 24% of the cases were Grade – 3(Reduction of size and oozing) and 5% of the cases were Grade – 4(Reduction of itching).

GRADATION OF RESULTS WITH YOGA:

Out of 10 patients 74% cases were Grade –2(Reduction of hyperpigmentation), 26% of the cases were Grade – 3(Reduction of size and oozing).

MANAGEMENT:

'Viresanathaal vatham thaazhum'

In Siddha System before starting the treatment it is necessary to bring the Mukkutram to equilibrium. By giving purgation vitiated vatham come to normal condition.

. **I DAY - Virechana Boopathi Tablet -2 O.D** given in the early morning.

DRUGS:

II DAY -Internal Medicine: Parangichakkai chooranam – 5gms with honey

External Medicine*:* Neeradimuthu Pasai

Patients were instructed to take the medicines regularly and apply the external medicine twice a day. It was ensured that the diet restrictions imposed were followed properly by the patients.

These specific drugs for the dissertation work were prepared by the author in the supervision of Faculty members of Gunapadam in the Gunapadam practical laboratory, National Institute of Siddha. Bio-chemical Analysis was also done in the Bio chemistry laboratory of National Institute of Siddha.

SUMMARY

- **Padar Thamarai** has been chosen for the dissertation work by the author. Various literatures have been collected from Siddha and modern literatures.
- Preclinical analyses in biochemical aspects was conducted for the trial drug **Parangi chakkai chooranam**. 42 patients of both sex and in age group between 20 to 60 were selected for the study.
- 12 cases were treated in Inpatient ward at least for minimum 15 days and followed up in the outpatient department after discharge. 30 cases were treated in the outpatient department for 30 days.
- All the details about the study and the drugs were informed to the patients in their vernacular language and consent forms duly signed by them were obtained from them. Before starting the treatment, the blood samples of the selected patients were subjected to investigation and photographs of the lesions were taken.
- A day before starting the treatment purgation was given by administering **Virechana Boopathi Tablet - 2 O.D** with hot water in the early morning to normalise the thrithodam.
- From the second day onwards **Parangichakkai chooranam – 5gms B.I.D.** along with honey was given internally and **Neeradimuthu pasai-QS** for external use were given to the patients.
- Diet restrictions were strictly imposed during the treatment period. Every 8th day the patients were assessed for clinical improvement and adverse effects. On the 30th day photographs were repeated. The improvement was assessed.
- During the course of treatment there were no adverse effects or unwanted drug reactions such as nausea, abdominal discomfort. Hence the trial drugs were considered as safte.

CONCLUSION

The treatment was given for Padar thamarai on the basis of principles of Siddha system deranged Thri Thodams were corrected by the trials medicine given to the Padar thamarai.

The present clinical study reveals that the trial drug showed Grade - 2 (Reduction of hyper pigmentation) improvement in 71 % of the cases, Grade 3 (Reduction of size and oozing) improvement in 24% of the cases, Grade 4 (Reduction of itching) improvement in 5% cases.

There was no adverse effects were reported during the study. Hence the trials drugs are considered as safe. The preparation of Internal and External Medicine were simple also. It is concluded that the trial drugs were therapeutically effective against Padar Thamarai.

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IAEC PROTOCOL NO: 1248/aac/09/CPCSEA/4-20/2011.

20/12/2011

CERTIFICATE

This is certify that the project title. PRECLINICAL AND CLINICAL STUDY ON PARANGICHAKKAI CHOORNAM (INTERNAL MEDICINE) AND NEERADIMUTHU PASAI (EXTERNAL MEDICINE) FOR THE TREATMENT OF "PADAR THAMARAI (PUNDAREEGA KUTTAM)".

has been approved by the IAEC.

Prof. Dr. K. Manickavasakam	Dr. B. Jayachandran Dare
Name of Chairman/Member Secretary IAEC:	**Name of CPCSEA nominee:**
Signature with date	
Chairman/Member Secretary of IAEC:	**CPCSEA nominee:**

(Kindly make sure that minutes of the meeting duly signed by all the participants are maintained by Office)

NATIONAL INSTITUTE OF SIDDHA
(An Autonomous Body under Department of AYUSH)
Ministry Of Health & Family Welfare, Government of India

Tambaram Sanatorium, Chennai - 600 047
Tel : 044-22411611 Fax : 044-22381314
E-mail : nischennaisiddha@yahoo.co.in
Website : www.nischennai.org

Name: Dr. M. Sathishkumar Reg: 32102204
Title: Preclinical and clinical Study on Pasangichakkai Choornam (Internal medicine) and Neeradimuthu Pasai (External medicine) for the treatment of Padas Thamarai (Erythema)
No. NIS/IEC/2011/3/20 - 24/12/2011

DECSION

Opinion of the Institutional Ethics Committee – Please Check one
✓ Approval _____ Modifications required prior to approval (Please specify one space below) _____ Disapproval Date of review: _____ K. Manickavasakam (Dr. K. MANICKAVASAKAM) Member Secretary Signed: _____ (Please print name) Dr.V.SUBRAMANIAN chair person (Please delee as appropriate, Chairperson, Secretary)
Modifications needed Modification given to candidate
The research proponent is hereby informed that the Institutional Ethics Committee will require the following: 1. All adverse drug reactions (ADRs) that are both serious and unexpected to be reported promptly to the IEC within 7 working days 2. The progress report to be submitted to the IEC atleast annually 3. Upon completion of the study, a final study status report needs to submitted to the IEC

The Tamil Nadu Dr. M.G.R. Medical University

69, Anna Salai, Guindy, Chennai-600 032

This Certificate is awarded to Dr M. SATHISHKUMAR

for participating as a ~~Resource Person~~ / Delegate in the VI Workshop on

"Research Methodology & Biostatistics"

for AYUSH Post-Graduates & Researchers

organized by the Department of Siddha

The Tamil Nadu Dr. M.G.R. Medical University

from 12th September 2011 to 16th September 2011

Dr. MAYILVAHANAN NATARAJAN
M.S.Orth. M.Ch.Orth. (L'pool) Ph.D. D.Sc. F.R.C.S. D.Sc. (Hon)^3
VICE CHANCELLOR

Dr. SUDHA SESHAYYAN, M.S.
REGISTRAR (FAC)

Dr. N. KABILAN, M.D. (Siddha)
READER, DEPT. OF SIDDHA

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 600047

CERTIFICATE OF BOTANICAL AUTHENTICITY

Certified that the following plant drugs used in the Siddha formulation **Parangichakkai Chooranam** (Internal) and **Neeradimuthu Pasai** (External) for the treatment of **Pundareega Kuttam** (Tinea infection) taken up for Post Graduation Dissertation studies by **Dr.M.Sathishkumar**, M.D.(S), II year, Department of Sirappu Maruthuvam, 2011-12, are identified and authenticated through Visual inspection / Experience, Education & Training/ Organoleptic characters/ Morphology / Micromorphology / Taxonomical/ Microscopical methods.

Smilax china Linn. (Liliaceae), Root
Indigofera aspalathoides Vahl ex DC. (Fabaceae), Whole plant
Azima tetracantha Linn. (Salvadoraceae), Root
Enicostemma littorale Blume (Gentianaceae), Whole plant
Hydnocarpus laurifolia (Dennst.) Sleumer
Papaver somniferum Linn. (Papaveraceae), Seed
Cocus nucifera Linn. (Arecaceae), Dried kernel
Centratherum anthelminticum (Willd.) Kuntze (Asteraceae), Seed
Nigella sativa Linn. (Ranunculaceae), Seed
Psoralea corylifolia Linn. (Fabaceae), Seed
Argemone mexicana Linn. (Papaveraceae), Seed

Certificate No: NIS/MB/51/2012

Date: 12-6-12

Authorized Signatory

12/6/12
Dr. D. ARAVIND, M.D.(S),M.Sc.,
Assistant Professor
Department of Medicinal Botany
National Institute of Siddha
Chennai - 600 047, INDIA

NATIONAL INSTITUTE OF SIDDHA

ACUTE TOXICITY STUDY OF PARANGICHAKKAI CHOORANAM

[WHO guidelines, 1993]

Principle:

Acute toxicity was carried out in Swiss albino mice with a single exposure of 10 times of the recommended therapeutic dose of test compound the study duration will be 14 days.

Animal species : Swiss albino mice
Age / Weight / Size : 6 weeks. Mice-20-25 gms.
Gender : Both male and female
Number of Animals : Mice: 10
Acclimatization Period : 7 Days
Clinical dose : 162 mg\day

S.No	Group	No of mice
1	Vehicle control (saline)	10 (5 male, 5 female)
2	Toxic dose 10X therapeutic dose (1620mg)	10 (5 male, 5 female)

Test Animals

Test animals were obtained from the animal laboratory of the King institute, Chennai and stocked at National institute of siddha, Chennai. All the animals were kept under standard environmental condition (27+ or – 2 degree c).The animals had free access to water and standard pellet diet (Sai Durga foods pvt.ltd, Bangalore).The principles of laboratory animal care were followed and the Institutional ethical committee approved the use of animals and the study design. **(1248/ac/09/CPCSEA/February/ 2012)**

Route of administration:

Oral route was selected, because it is the normal route of clinical administration.

Test substance and vehicle

The Parangichakkai Chooranam is Brown in colour. The test substance is insoluble in water, in order to obtain and ensure the uniformity in drug distribution the drug is dissolved by aqueous Tween 80 solution (10%).

Administration of doses

Parangichakkai chooranam was suspended in aqueous Tween 80 solution (10%), with uniform mixing and it was administered to the groups in a single oral dose .The control groups were received equal volume of the vehicle. The animals were weighed before giving the drug. The dose level was calculated according to body weight, and surface area. Since the clinical dose was 162mg\day it was converted to animal dose (1620mg) and then administered. The principle of laboratory animal care was followed.

Observations

Observations were made and recorded systematically and continuously observed as per the guideline after substance administration. The animals were monitored for behavioural parameters like

1. Awareness
    - Alertness
    - Visual placing
    - Stereotype
    - Passivity
2. Mood
    - Grooming
    - Restlessness
    - Irritability
    - Fearfulness
3. Motor activity
    - Spontaneous activity

- Reactivity
- Touch response
- Pain response.

Animals were observed for body weight and mortality for 14 days. If animals died during the period of study, the animals were sacrificed. At the end of the 14th day all animals were sacrificed and necropsy was done.

Body Weight

Individual weight of animals was determined before the test substance was administered and daily for 14 days. Weight changes were calculated and recorded. At the end of the test, surving animals were weighed and sacrificed.

Results:

Parangaichakkai chooranam at the dose 1620mg/animal did not exhibit any mortality in mice. No behavior changes were noted for the first 4 hours and for the next 24 hours and throughout the study period of 14 days. No weight reduction was noted before and after the acute study duration. Reflexes were found to be normal before and after the study. All other observations were found to be normal before and after the study. In Necropsy, the organs of the animal such as, Liver, Heart, Lungs, Pancreas, Spleen, Stomach, Intestine, Kidney, Urinary bladder, Uterus all appeared normal.

BIO -CHEMICAL ANALYSIS OF PARANGICHAKKAI CHOORANAM ANALYSED AT NATIONAL INSTITUTE OF SIDDHA

S.No	EXPERIMENT	OBSERVATION	INFERENCE
1.	Physical Appearance of sample	Light brown in olour	
2.	**Solubility:** a. A little (500mg) of the sample is shaken well with distilled water. b. A little (500mg) of the sample is shaken well with con. HCl/Con. H_2So_4	Sparingly soluble	Presence of Silicate
3.	**Action of Heat:** A small amount(500mg) of the sample is taken in a dry test tube and heated gently at first and then strong.	White fumes evolved	Presence of Carbonate
4.	**Flame Test:** A small amount (500mg) of the sample is made into a paste with con. HCl in a watch glass and introduced into non-luminous part of the Bunsen flame.	No Bluish green lame appeared.	Absence of Copper
5.	**Ash Test:s** A filter paper is soaked into a mixture of sample and dil. cobalt nitrate solution and introduced into the Bunsen flame and ignited	No Yellow colour flame	Absence of sodium

Preparation of Extract: 5gm of Parangichakkai chooranam is weighed accurately and placed in a 250ml clean beaker and added with 50ml of distilled water. Then it is boiled well for about 10 minutes. Then it is cooled and filtered in a 100ml volumetric flask and made up to 100ml with distilled water.

S.No	EXPERIMENT	OBSERVATION	INFERENCE
	I. Test For Acid Radicals		
1.	**Test For Sulphate:** a.2ml of the above prepared extract is taken in a test tube to this added 2ml of 4% dil ammonium oxalate solution	No Cloudy appearance present	Absent of Sulphate
2.	**Test For Chloride:** 2ml of the above prepared extracts is added with 2ml of dil-HCl is added until the effervescence ceases off..	No cloudy appearance present	Absent of Chloride
3.	**Test For Phosphate:** 2ml of the extract is treated with 2ml of dil.ammoniummolybdate solution and 2ml of con.HNo3	Cloudy yellow appearance present	Presence of Phosphate
4.	**Test For Carbonate:** 2ml of the extract is treated with 2mldil. magnesium sulphate solution	No Cloudy appearance present	Absent of Carbonate
C	**Test For Nitrate:** 1gm of the substance is heated with copper turning and concentrated H2So4 and viewed the test tube vertically down.	No Brown gas is evolved	Absence of Nitrate
6.	**Test For Sulphide:** 1gm of the substance is treated with 2ml of con. HCL	No rotten Egg Smelling gas evolved	Absence of Sulphide
7.	**Test For Fluoride & Oxalate:** 2ml of extract is added with 2ml of dil. Acetic acid and 2ml dil.calcium chloride solution and heated**.**	No Cloudy appearance	Absence of fluoride and oxalate
8.	**Test For Nitrite:** 3drops of the extract is placed on a filter paper, on that-2 drops of dil.acetic acid and 2 drops of dil.Benzidine solution is placed.	Shows Characteristic changes	Presence of Nitrite

9.	**Test For Borate:** 2 Pinches(50mg) of the substance is made into paste by using dil.sulphuric acid and alcohol (95%) and introduced into the blue flame.	Bluish green colour flame not appeared	Absence of borate
II. Test For Basic Radicals			
1.	**Test For Lead:** 2ml of the extract is added with 2ml of dil.potassium iodine solution.	NoYellow Precipitate is obtained.	Absence of lead
2.	**Test For Copper:** **a.** One pinch(50mg) of substance is made into paste with con. HClin a watch glass and introduced into the non-luminuous part of the flame.	No Blue colour flame No Blue colour precipitate formed.	Absence of copper
3.	**Test For Aluminium:** To the 2ml of extract dil.sodium hydroxide is added in 5 drops to excess.	No characteristic changes	Absence of aluminium
4.	**Test For Iron:** a.To the 2ml of extract add 2ml of dil.ammonium solution b.To the 2ml of extract 2ml thiocyanate solution and 2ml of con HNo3 is added	Red colour appeared	Presence of Iron
5.	**Test For Zinc:** To 2ml of the extract dil.sodium hydroxide solution is added in 5 drops to excess and dil.ammonium chloride is added.	White precipitate is not formed	Absence of Zinc
6.	**Test For Calcium:** 2ml of the extract is added with 2ml of 4% dil.ammonium oxalate solution	No Cloudy appearance and white precipitate is obtained	Absence of calcium
7.	**Test For Magnesium:** To 2ml of extract dil.sodium hydroxide solution is added in drops toexcess.	No white precipitate is obtained	Absence of Magnesium

8.	**Test For Ammonium:** To 2ml of extract 1 ml of Nessler's reagent and excess of dil.sodium hydroxide solution are added.	No Brown colour appeared	Absence of ammonium
9.	**Test For Potassium:** A pinch(25mg) of substance is treated of with 2ml of dil.sodium nitrite solution and then treated with 2ml of dil.cobalt nitrate in 30% dil.glacial acetic acid.	Yellowish precipitate is obtained.	Presence of Potassium
10.	**Test For Sodium**: 2 pinches(50mg) of the substance is made into paste by using HCl and introduced into the blue flame of Bunsen burner.	No Yellow colour flame appeared	Absence of Sodium
11.	**Test For Mercury**: 2ml of the extract is treated with 2ml of dil.sodium hydroxide solution.	yellow precipitate is obtained	Absence of Mercury
12.	**Test For Arsenic:** 2ml of the extract is treated with 2ml of dil.sodium hydroxide solution.	No brownish red precipitate is obtained	Absence of Arsenic
III. Miscellaneous			
1.	**Test For Starch:** 2ml of extract is treated with weak dil.Iodine solution	No Blue colour developed	Absence of starch
2.	**Test For Reducing Sugar:** 5ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 minutes and added 8 to 10 drops of the extract and again boil it for 2 minutes. The colour changes are noted.	Brick red colour is developed	Presence of reducing sugar
3.	**Test For The Alkaloids**: a) 2ml of the extract is treated with 2ml of dil.potassiumlodide solution. b) 2ml of the extract is treated with 2ml of	.Red colour developed Yellow colour	- Presence

	dil.picric acid. c) 2ml of the extract is treated with 2ml of dil.phosphotungstic acid.	developed White precipitate developed	of Alkaloid
4.	**Test For Tannic Acid:** 2ml of extract is treated with 2ml of dil.ferric chloride solution	No black precipitate is obtained	Absence of Tannic acid
5.	**Test For Unsaturated Compound:** To the 2ml of extract 2ml of dil.Potassium permanganate solution is added.	Potassium permanganate is not decolourised	Absence of unsaturated compound
6.	**Test For Amino Acid:** 2 drops of the extract is placed on a filter paper and dried well. 20ml of Biurette reagent is added**.**	No Violet colour developed	Absence of amino acids
7.	**Test For Type Of Compound:** 2ml of the extract is treated with 2 ml of dil.ferric chloride solution.	No green colour developed No red colour developed No violet colour developed No blue colour developed.	Absence of oxy quinolepinephrine and pyro catechol. Anti pyrine, Aliphatic amino acids and meconic acid are absent Apomorphine salicylate and Resorcinol are absent morphine, Phenol cresol and hydrouinonear e absent

Preliminary Qualitative Phyto chemical tests procedure and interpretation of results

S.NO	CONSITUENTS	INFERENCE
1.	**Silicate**	Present
2.	**Carbonate**	Present
3.	**Nitrite**	Present
4.	**Pottassium**	Present
5.	**Iron**	Present
6.	**Alkaloids**	Present
7.	**Phosphate**	Present
8.	**Reducing sugar**	Present
9.	**Sulphate**	Absent
10.	**Chloride**	Absent
11.	**Nitrate**	Absent
12.	**Oxalate**	Absent
13.	**Fluoride**	Absent
14.	**Borate**	Absent
15.	**Lead**	Absent
16.	**Aluminium**	Absent
17.	**Zinc**	Absent
18.	**Calcium**	Absent
19.	**Magnesium**	Absent
20.	**Ammonium**	Absent
21.	**Sodium**	Absent
22.	**Mercury**	Absent
23.	**Arsenic**	Absent
24.	**Starch**	Absent
25.	**Sulphide**	Absent
26.	**Tannic Acid**	Absent
27.	**Unsaturated compound**	Absent
28.	**Amino Acid**	Absent
29.	**Type of compounds**	Absent

NATIONAL INSTITUTE OF SIDDHA

AYOTHIDOSS PANDITHAR HOSPITAL

CHENNAI – 600 047.

POST - GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

Preclinical and clinical study on PARANGICHAKKAI CHOORNAM (Internal Medicine) and NEERADIMUTHU PASAI (External Medicine) for the treatment of PADAR THAMARAI (Pundareega Kuttam)

FORM l - SCREENING AND SELECTION PROFORMA

1.OP NO: .....

2. NAME: …….

3. AGE: …… 4.GENDER: …….....

5. OCCUPATION: …….. 6.INCOME: ……

7. ADDRESS: ……

……

……

8. CONTACT NO: ……

INCLUSION CRITERIA :

- Age:20-60
- Sex: Both Male and Female.
- Typical distribution of the lesions presenting on following parts of the body such as face, axilla, body, inguinal regions and nails except head.
- Well defined raised margin with clearance in the central area of the lesion.
- Marked itching.
- Willing to sign the informed consent stating that he/she will consciously stick to the treatment during 30 days.
- Willing to give blood and urine samples for laboratory investigations

EXCLUSION CRITERIA

- Lesions with secondary infections
- Deep type of Tinea barbae.
- Sexually transmitted disease
- Diabetes
- Hypertension
- Leprosy
- Any other systemic diseases

ADMITTED TO TRIAL

YES ☐ NO ☐

If yes, serial No: ☐☐

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: Signature of the HOD

NATIONAL INSTITUTE OF SIDDHA

AYOTHIDOSS PANDITHAR HOSPITAL

CHENNAI – 600 047.

POST - GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

Preclinical and clinical study on PARANGICHAKKAI CHOORNAM (Internal Medicine) and NEERADIMUTHU PASAI (External Medicine) for the treatment of PADAR THAMARAI (Pundareega Kuttam)

FORM lI - HISTORY PROFORMA ON ENROLLMENT

1. SERIAL NO OF THE CASE: ……

2.OP / IP NO: .....

3. NAME: …… 4.AGE: …… 5.GENDER: .....

6. COMPLAINTS & DURATION:

7. HABITS:

SMOKING

YES / NO If yes, specify duration ------- yrs------months

TOBACCO CHEWING

YES/ NO If yes, specify duration ------- yrs-------months

ALCOHOLISM

YES / NO If yes, specify duration -------- yrs-------months

8.ALLERGY TO DRUG:

9. FAMILY HISTORY:

Whether this problem runs in family?

1. Yes ☐ 2.No ☐

If yes, mention the relationship of affected person(s)

1._____

2._____

3._____

10.DIETARY HABIT:

1.Vegetarian ☐

2.Non-vegetarian ☐

11. MENSTRUAL HISTORY:

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: Signature of the HOD

NATIONAL INSTITUTE OF SIDDHA

AYOTHIDOSS PANDITHAR HOSPITAL

CHENNAI – 600 047.

POST - GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

Preclinical and clinical study on PARANGICHAKKAI CHOORNAM (Internal Medicine) and NEERADIMUTHU PASAI (External Medicine) for the treatment of PADAR THAMARAI (Pundareega Kuttam)

FORM III - CLINICAL ASSESSMENT ON ENROLLMENT

1.OP NO: ---------- 2.IP NO: ---------- 3.BED NO: ------ 4.SI NO: ------

5. NAME: ---------- 6. AGE: --------- 7.GENDER: ------

8. DATE OF INITIAL ASSESSMENT: ----------

9. GENERAL EXAMINATION:

1. Body weight [Kg] :
2. Height [cm] :
3. Body Temperature [^{o}F] :
4. Blood Pressure (mmHg) :
5. Pulse Rate /min. :
6. Heart Rate / min. :
7. Respiratory Rate /min. :

		Yes	No
8. Pallor	:	☐	☐
9. Jaundice	:	☐	☐
10. Clubbing	:	☐	☐
11. Cyanosis	:	☐	☐
12. Pedal Oedema	:	☐	☐
13. Lymphadenopathy	:	☐	☐
14. Jugular venous pulsation	:	☐	☐

10. SYSTEMIC EXAMINATION:

	Normal	Abnormal
1. Cardio-vascular system	☐	☐
2. Respiratory system	☐	☐
3. Gastro- intestinal system	☐	☐
4. Central nervous system	☐	☐
5. Uro-genital system	☐	☐
6. Endocrine system	☐	☐

11. SIDDHA SYSTEM OF EXAMINATION

1. THEGI (TYPE OF BODY CONSTITUTION):

1. Vatha udal ☐
2. Pitha udal ☐
3. Kaba udal ☐
4. Thontha udal ☐

2. NILAM (LAND WHERE THE PATIENT LIVED MOST):

1. Kurinji (Hilly terrain) ☐
2. Mullai (Forest range) ☐
3. Marutham (Plains) ☐
4. Neithal (Coastal belt) ☐
5. Paalai (Arid regions) ☐

3. KAALAM:

1. Kaar kaalam ☐
2. Koothir kaalam ☐

3. Munpani kaalam ☐

4. Pinpani kaalam ☐

5. Ilavenil kaalam ☐

6. Muthuvenil kaalam ☐

4. GUNAM:

1. Sathuvam ☐

2. Rasatham ☐

3. Thamasam ☐

5. PORIPULANGAL (SENSORY ORGANS):

	0th day	**8th day**	**16th day**	**24th day**	**31st day**
Mei (Skin)					
Vai (Tongue)					
Kann (Eye)					
Mooku (Nose)					
Sevi (Ear)					

6. KANMENDRIYAM (MOTOR ORGANS)

	0th day	**8th day**	**16th day**	**24th day**	**31st day**
Kai (upper limb)					
Kaal (lower limbs)					

Vai (Speech)					
Eruvai (excretory organs)					
Karuvai (reproductive organs)					

7. KOSANGAL (SHEATH):

	Before treatment	After treatment
Annamaya Kosam		
Pranamaya Kosam		
Manomaya Kosam		
Vignanamaya Kosam		
Ananthamaya Kosam		

8. UYIR THATHUKKAL (THREE HUMOURS):

8a.VALI:

	0th day	**8th day**	**16th day**	**24th day**	**31st day**
Praanan (Uyirkkaal)					
Abaanan(Keezhnokkunkaal)					
Viyaanan(Paravukaal)					

Udhaanan(Melnokkunkaal)					
Samaanan(Nadukkaal)					
Naagan					
Koorman					
Kirukaran					
Devathathan					
Dhananjeyan					

B) AZHAL

	Before treatment	After treatment
Analakam(aakkanal)		
Ranjakam(Vanna eri)		
Saathakam (Atralangi)		
Prasakam (Ullolithee)		
Aalosakam(Nokkazhal)		

C) IYAM

	Before treatment	After treatment
Avalambagam(Aliaiyam)		
Kilethagam(Neerppeiyam)		
Pothagam(Suvaikaaniyam)		
Tharpagam(Niraiviyam)		
Santhigam(Ontriiyam)		

9. SEVEN UDAL THATHUKKAL: (SEVEN SOMATIC COMPONENTS)

	Before treatment	After treatment
Saaram		
Senneer		
Oon		
Kozhuppu		
Enbu		
Moolai		
Sukkilam/ Suronitham		

10. ENVAGAI THERVU: [EIGHT TYPES OF EXAMINATION]

I. NAADI: [PULSE PERCEPTION]

Days	**Naadi nadai**
0th day	
8th day	
16th day	
24th day	
31st day	

II. SPARISAM:

0th day	**8th day**	**16th day**	**24th day**	**31st day**
Warmth/ Cold/Normal	Warmth/ Cold/Normal	Warmth/ Cold/Normal	Warmth/ Cold/Normal	Warmth/ Cold/Normal

III. NAA: [TONGUE]

	Before treatment	After treatment
Colour		
Taste		
Coating		
Fissure		
Dryness		
Glossitis		
Others		

IV.NIRAM: [COMPLEXION]

1. Vadham ☐
2. Pitham ☐
3. Kabam ☐

V.MOZHI: [VOICE]

1. High Pitched ☐
2. Low Pitched ☐
3. Medium Pitched ☐

VI.VIZHI: [EYES]

0th day	**8th day**	**16th day**	**24th day**	**31st day**

VII. MALAM: [BOWEL HABITS / STOOLS]

	Before treatment	After treatment
Colour		
Consistency		
Stool bulk		

Constipation (Irugal)		
Diarrhoea (Ilagal)		
Others		

VIII. URINE EXAMINATION

NEERKKURI	**0th day**	**8th day**	**16th day**	**24th day**	**31st day**
Niram [Colour]					
Edai [Sp.gra]					
Manam[Odour]					
Nurai[Froth]					
Enjal [Deposits]					

NEIKKURI	**0th day**	**8th day**	**16th day**	**24th day**	**31st day**
Serpentine Pattern					
Annular/Ringed Pattern					
Pearl beaded Pattern					
Other Pattern					

11. SEVEN UDAL THATHUKKAL: (SEVEN SOMATIC COMPONENTS)

	Before treatment	After treatment
Saaram		
Senneer		
Oon		
Kozhuppu		
Enbu		
Moolai		
Sukkilam/ Suronitham		

NATIONAL INSTITUTE OF SIDDHA

AYOTHIDOSS PANDITHAR HOSPITAL

CHENNAI – 600 047.

POST - GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

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FORM lV - CLINICAL ASSESSMENT DURING AND AFTER TRIAL

1. OP/ IP NO: …… 2. SL. NO: …… 3.NAME: ……..

4. AGE: …… 5. GENDER: ….. 6. DATE OF RECRUITMENT: ……

	0th day	**8th day**	**16th day**	**24th day**	**31st day**
Site					
Colour					
Size					
Shape					
Border					
Itching					
Erythema					
Vesicle					
Papule					

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: Signature of the HOD

NATIONAL INSTITUTE OF SIDDHA

AYOTHIDOSS PANDITHAR HOSPITAL

CHENNAI – 600 047.

POST - GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

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FORM V- LABORATORY INVESTIGATIONS

Blood Investigations		**Normal Values**	**Before trmt**	**After trmt**
Hb(gm/dl)		**M:12-15 W:11.5-14**		
T.WBC (cells/Cu.mm)		**4000-11000**		
DIFFERENTIAL COUNT (%)	**Polymorphs**	**40-75**		
	Lymphocytes	**20-40**		
	Monocytes	**2-10**		
	Eosinophils	**1-6**		
	Basophils	**0-1**		
T.RBC(million cells/Cu.mm)		**M:4.0-5.5 W:3.5-4.5**		
ESR(mm/hour)	**½ hr.**	**M:6-12 W:7-18**		
	1 hr.			

Blood Investigations		Normal Values	Before trmt	After trmt
Blood glucose (mg/dl)	Fasting	70-110		
	PP	80-140		
	Random	80-120		
RFT (mg/dl)	Blood urea	16-50		
	Serum creatinine	0.6-1.2		
LFT (mg/dl)	Total bilirubin	0.2-1.2		
	Direct bilirubin	0.1-1.2		
	Indirect bilirubin	0.2-0.7		
	SGOT	0-40		
	SGPT	0-35		
	Alkaline phosphatase	80-290		
Urine investigation			Before trmt	After trmt
Albumin				
Fasting sugar				
PP sugar				
Deposits				

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: Signature of the HOD

தேசிய சித்த மருத்துவ நிறுவனம், சென்னை -600 047

அயோத்திதாச பண்டிதர் மருத்துவமனை

படர் தாமரை (புண்டரீகக் குட்டம்) நோய்க்கான சித்த மருந்துகளின் (பரங்கிச்சக்கை சூரணம், நீரடிமுத்து பசை) பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கான தகவல் படிவம்

தகவல் படிவம்

முதன்மை ஆராய்ச்சியாளர் பெயர் : Dr. **மா. சதீஷ்குமார்**

நிறுவனத்தின் பெயர் : **தேசிய சித்த மருத்துவ நிறுவனம்**
தாம்பரம் சானடோரியம்
சென்னை- 47

தேசிய சித்த மருத்துவத்தில் பட்ட மேற் படிப்பு பயின்று வரும் நான் படர் தாமரை என்னும் தோலை பாதிக்கும் நோயில் மருத்துவ ஆராய்ச்சியில் ஈடுபட்டுள்ளேன்.

படர் தாமரை (புண்டரீகக் குட்டம்) என்னும் நோயானது சித்த மருத்துவத்தில் 18 **வகை குட்டங்களுள் தோலினைப் பாதிக்கும் நோய்களில் ஒன்று, இடுப்பு, தொடை இடுக்கு, முதலிய இடங்களில் உண்டாகி நமைச்சல் கண்டு சொரியச் செய்யும், காந்தல் உண்டாகும், இது தொற்று நோய்களில் ஒன்று.**

Ìó¾ ¬Ã¡öÎº¢ ºõÀó¾Á¡¸ º¢Ä §¸ûÅ¢¸¨ள §¸ð¸×õ, §¾¨ÅÂ¡É ¬öÅ¸ப் ÀÃ¢§º¡¾¨É ì Ì ò ¾í¸¨ள ¯ðÀÎò¾×õ ¯û§ளý.

Ìó¾ ¬Ã¡öÎº¢ì Ì ¾¡í¸û Å¢ÕôÀò¾¢ý §ÀÃ¢ø ¯ðÀÎõ Àðºò¾¢ø **உள்** மருந்தாக பரங்கிச்சக்கைச் சூரணம் 5 கிராம் தேனில் 2 வேளை (காலை மாலை) உணவுக்குப் பின் 30 நாட்களுக்கு உட்கொள்ள வேண்டும், வெளி மருந்தாக நீரடிமுத்துப் பசையினை புளித்த நீரில் கலந்து நோயுள்ள இடங்களில் வெளியே தடவ வேண்டும். வெளி நோயாளர்கள் 7 நாட்களுக்கு ஒரு முறை மருத்துவமனைக்கு வரவேண்டும். ¯û

§¿¡Â¡ள¢Â¡ ¸ ¾í ¸ Å¢ÕôÀõ ¦¾Ã¢Å¢ì Ìõ Àðº ò¾ø §¿¡öì Ìò ¾Ìó¾ §Â¡ ¸ô ÀÂ¢üº¢ «ள¢ì ¸ôÀÎõ. இó¾ ÁÕóÐ º¢ÈôÀ¡ **படர் தாமரை** §¿¡öì ¸i ¸ «í ¸¦ ¸Ã¢ì ¸ôÀð¼ º¢ò¾ ÁÕòÐÅ áÄ¢ø ÜÈôÀðÎûளÐ.

இó¾ ¬Ã¡öîº¢Â¢ø ¾í ¸¨ள «ÛÁ¾¢ò¾ À¢È Ì ¯í ¸Ùì Ì Å¢ÕôÀõ இø¨Ä¦ÂÉ¢ø ±ô§À¡Ð §Åñ ÎÁ¡É¡Öõ ¬Ã¡öîº¢Â¢ø இÕóÐ Å¢Ä ¸¢ì ¦ ¸¡ûள ¯Ã¢¨Á ¯ûளÐ.

இó¾ ¬Ã¡öîº¢ ºõÀó¾Á¡ ¸ §¿¡Â¢ý ¾ý¨Á ÀüÈ¢Ôõ ÁüÈ Å¢ÀÃí ¸Ùì Ìõ Ó¾ý¨Á ¬Ã¡öîº¢Â¡ளÃ¡É ÁÕòÐÅ÷: Dr. **மா. சதீஷ்குமார்** (**பட்ட மேற் படிப்பாளர் சிறப்பு மருத்துவ பிரிவு**)**அணுகவும்**. **கைப்பேசி எண்**: 9962403457.

§ÁÖõ இó¾ ¬Ã¡öîº¢ì Ì ¾ì ¸ «ÛÁ¾¢ º¡ýÚ (IEC) ¦ÀÈôÀðÎûளÐ.

இó¾ ÁÕóÐ ÓüÈ¢Öõ À¡Ð ¸¡ôÀ¡É ãÄ¢¨ ¸ ¸¨ளì ¦ ¸¡ ñ Î ¾Â¡Ã¢ì ¸ôÀðÎûளÐ. Àì ¸ Å¢¨ள×¸¨ள ²üÀÎò¾¡Ð.

§ÁÖõ ¯½× Ó¨ÈÂ¢ø ÁÕòÐÅÃ¡ø ÜÈôÀÎõ Àò¾Âõ ¸¡ì ÌÁ¡Ú «È¢×Úò¾ ÀÎ ¸È Ð.

இÐ ºõÀó¾Á¡É ¾í ¸ளÐ «¨ÉòÐ Å¢ÅÃí ¸Ùõ Ã¸º¢ÂÁ¡ ¸Åì ¸ôÀÎõ ±É ¯Ú¾¢«ள¢ì ¸¢§È ý.

இ¾¢ø ÀÂ½ôÀÊ Ó¾Ä¢Â ±ó¾ ¯¾Å¢ò ¦¾¡¨ ¸Ôõ ÅÆí ¸ô À¼ Á¡ð¼¡Ð.

இó¾ ¬Ã¡öîº¢Â¢ý §À¡Ð ¯¼Öì Ì §ÅÚ À¡¾¢ôÒ ²üÀÎõ Àðº ò¾¢ø §¾º¢Â º¢ò¾ ÁÕòÐÅÁ¨ ÉÂ¢ø ¾ì ¸ º¢¸¢î¨º «ள¢ì ¸ôÀÎõ.

தேசிய சித்த மருத்துவ நிறுவனம், சென்னை- 47

அயோத்திதாசர் பண்டிதர் மருத்துவமனை

படர் தாமரை (புண்டரீக குட்டம்) நோய்க்கான சித்த மருந்துகளின்

(பரங்கிச்சக்கை சூரணம், நீரடிமுத்து பசை) பரிகரிப்புத் திறனைக் கண்டறியும்

மருத்துவ ஆய்விற்கான ஒப்புதல் படிவம்

¬ öÅ¡ளÃ¡ø º¡ýÈள¢ì¸ôÀð¼Ð

¿¡ý இó¾ ¬ö× ÌÈò¾ «¨ÉòÐ Å¢ÀÃí¸¨ளÔõ §¿¡Â¡ள¢ì Ì ÒÃ¢Ôõ Å¨¸Â¢ø ±ÎòÐ¨Ãò§¾ý ±É ¯Ú¾¢Âள¢ì¸¢§ÈÝ.

§¾¾¢: ¨¸¦Â¡ôÀõ:

இ¼õ: ¦ÀÂ÷ :

§¿¡Â¡ள¢Â¢ý ´ôÒ¾ø

±ýÉ¢¼õ இó¾ ÁÕòÐÅ ¬öÅ¢ý ¸¡Ã½ò¨¾Ôõ, ÁÕó¾¢ý ¾ý¨Á ÁüÚõ ÁÕòÐÅ ÅÆ¢Ó¨È ÀüÈ¢Ôõ, ¦¾¡¼÷óÐ ±ÉÐ ¯¼ø இÂì¸ò¨¾ò ¸ñ¸¡½¢ì¸×õ, «¾¨É À¡Ð¸¡ì¸×õ ÀÂýÀÎõ ÁÕòÐÅ ¬ö×ì Ü¼ÀÃ¢§º¡¾¨É¸û ÀüÈ¢ ¾¢Õô¾¢ «ள¢ì Ìõ Å¨¸Â¢ø ¬ö× ÁÕòÐÅÃ¡ø Å¢ளì¸¢ì ÜÈôÀð¼Ð.

¿¡ý இó¾ ÁÕòÐÅ ¬öÅ¢ý §À¡Ð, ¸¡Ã½õ ±Ð×õ ÜÈ¡Áø, ±ô¦À¡ØÐ §Å ñÎÁ¡É¡Öõ இó¾ ¬öÅ¢Ä¢ÕóÐ ±ý¨É Å¢ÎÅ¢òÐ ¦¸¡ûÙõ ¯Ã¢¨Á¨Â ¦¾Ã¢ó¾¢Õì¸¢ý§ÈÝ. ¿¡ý ±ýÛ¨¼Â Í¾ó¾¢ÃÁ¡¸ §¾÷× ¦ºöÔõ ¯Ã¢¨Á¨Âò ¦¸¡ñÎ **படர் தாமரை** (**புண்டரீக குட்டம்**) **நோய்க்கான சித்த மருந்துகளின்** (**பரங்கிச்சக்கை சூரணம்** (¯û ÁÕóÐ) ÁüÚõ **நீரடிமுத்து பசை** (¦Åள¢ ÁÕóÐ) ÁÕó¾¢ý ÀÃ¢¸Ã¢ôÒò ¾¢È¨É ì¸ñ¼È¢Ôõ ÁÕòÐÅ ¬öÅüÌ ±ý¨É ¯ðÀÎò¾ ´ôÒ¾ø «ள¢ì¸¢§ÈÝ.

§¾¾¢: ¨¸¦Â¡ôÀõ:

இ¼õ: ¦ÀÂ÷ :

§¾¾¢: º¡ðº¢ì¸¡Ã÷ ¨¸¦Â¡ôÀõ:

இ¼õ: ¦ÀÄ÷ :

¯È×Ó¨È :

Å¢Ã¢×¨ÃÂ¡ள÷ ¨¸¦Â¡ôÀõ: Ð¨Èò¾¨ÄÅ÷ ¨¸¦Â¡ôÀõ:

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47

AYOTHIDASS PANDITHAR HOSPITAL

DEPARTMENT OF SIRAPPU MARUTHUVAM

Preclinical and clinical study on PARANGICHAKKAI CHOORNAM (Internal medicine) and NEERADIMUTHU PASAI (External Medicine) for the treatment of PADAR THAMARAI (Pundareega Kuttam)

FORM VI .A.– (INFORMATION SHEET)

Name of the Principal Investigator: Dr.M.SATHISHKUMAR

Part – A Information Sheet

Padarthamarai is one among the 18 types of kuttam.It principally affects the skin especially face, axilla, body, inguinal region and nails causing a severe itching and burning sensation. It is a highly contagious disease . This condition is being treated in NIS with many Siddha formulations. As a part of M.D(S) research programme and developing new efficacious medicine, I proposed to study the efficacy of PARANGICHAKKAI CHOORNAM (Internal), NEERADIMUTHU PASAI (External) formulations for treating the condition. This formulation has been mentioned in Siddha literature and empirical evidence with contemporary tools is required for documentation.

Trial medicines will be given free of cost. The duration of treatment period is 30 days.The patient`s have to visit the OPD of NIS hospital once in every 7 days and collect the drugs for 7 days. The diagnostic tests will be carried out free of cost. I will assess the effect of treatment after completion of 30 days of treatment using clinical and laboratory parameters.

In this regard, I need to ask few questions. I will maintain confidentiality of the patient`s comments and data obtained from him / her. There will be no risk of disclosing your identity and no physical, psychological or professional risk is involved by taking part in this study.

Taking part in this study is voluntary. No compensation will be paid to the patient for taking part in this study. The patient can choose not to answer any specific question. There is no specific benefit for the patient`s if they take part of in this study, but they will be under our clinical monitoring and specific attention will be given. Taking part in this study may be of benefit to the community, as it may help us to develop medicine for Padarthamarai. During the treatment if any adverse symptoms like passing loose stools,

irritation in the stomach, indigestion occur, shall be reported to NIS and treatment will be given in NIS hospital for relief. The patient`s will be allowed to withdraw from the study at any stage of treatment period, if they are not interested to continue and they will receive our usual treatment without any condition.

The information collected in the study, will be kept confidential. I may ask the patient`s some questions through a questionnaire. We will not write the patient`s name on different forms which are sent to different investigating / analysis sections and we will use a code instead given by principal investigator. Only the principal investigator will know the key to this code which will be kept in safe custody. If a patient agrees to be a participant in this study, he / she will be screened as per the study protocol.

If they wish to find out more about this study before taking part, they can ask or contact Dr.M.SATHISHKUMAR, P.G scholar cum principal investigator of this study, attached to the National Institute of Siddha, Chennai (Mobile No. 9962403457). You can also contact the chairman / Member Secretary of ethics committee, national Institute of Siddha, Chennai-600047, Tel No.: 914422411611, for rights and Participation in the study.

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47

AYOTHIDASS PANDITHAR HOSPITAL

DEPARTMENT OF SIRAPPU MARUTHUVAM

Preclinical and clinical study on PARANGICHAKKAI CHOORNAM (Internal medicine) and NEERADIMUTHU PASAI (External Medicine) for the treatment of PADAR THAMARAI (Pundareega Kuttam)

FORM VI.B. - CERTIFICATE OF CONSENT

"I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have asked have been answered to my satisfaction.

I consent voluntarily to participate as a participant in this study and understand that I have the right to withdraw from the study at any time without in any way it affecting my further medical care".

"I have received a copy of the information sheet/consent form".

Date:

Signature of the participant

In case of illiterate participant

"I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely."

Date:

Signature of a witness:

Left thumb impression of the Participant

(Selected by the participant bearing no connection with the survey team)

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47

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FORM IV.C. - DIETARY ADVICE FORM

§ºÖì¸ì ÜÊÂ ¯½×¸û (Diet to be included):

¸¡ö¸û (Vegetables):

ÓÕí¨¸ôÀ¢ïÍ (Unripe drumstick)

«Å¨ÃôÀ¢ïÍ (Unripe Dolichos bean)

À¢Ãñ¨¼ (Cissus quadrangularis,Linn)

¸¡Ãð (Carrot, Doucos carota)

À¢ðåð (Beet Root, Beta vulgaris)

¸¦¨Ã¸û (Greens):

¸Ã¢º¡¨Ä (trailing eclipta [Eclipta prostrate])

¦À¡ýÉ¡í¸¡½¢ (Sessile plant [Alternanthera sessilis])

Á½ò¾ì¸¡6Π¢ (Black night shade[Solanum nigrum])

ÓÕí¨¸ì¸¦¨Ã (Leaves of Drumstick [Moringa oleifera])

À º¨Äì¸¦¨Ã (Portuiaca quadrifida,Linn)

º¢Ú¸¦¨Ã (Amaranthus tricolor,Linn)

¸È¢§ÅôÀ¢¨Ä (Curry leaves [Murraya koenigii])

¦¸¡ò¾ÁøÄ¢ (Coriander leaves [Coriandrum sativum, Linn])

Ò¾¢É¡(Mentha piperita, Linn)

ÀÆí¸û (Fruits):

Á¡Ð¨6Π(Pomegranate)

¬ôÀ¢û (Apple)

Å¡¨Æ (Banana)

§ÀÃîº (Dates)

«ò¾¢ (Fig)

¾Ã¡ð¨º (Grapes)

¦¸¡öÂ¡ (Guava [Psidium guajava.Linn])

¿¡Åø (Jambul [Syzygium cumini])

¯Ä÷ ¾Ã¡ð¨º (Dry Grapes)

¾¡É¢Âí¸û (Seeds):

Ó¨ç¸ðÊÂ ÀÂ¢÷ Å¨¸û(Sprouted grains)

§º¡Â¡À½ýŠ(Soya beans)

¦Åó¾Âõ(Fenugreek seeds [Trigonella foenum graecum])

«¨ºÅõ (Non-vegetarian diet):

¦Åûç¡ðÎì¸È¢ ®Ãø (Goat`s meat, liver)

±ÖõÒÁ^¨ƒ(Bone marrow)

ÁüÈ¨Å (Others):

À¨É ¦ÅøÄõ(Palm jaggery)

À¡ø (Milk)

¾Å¢÷ì¸ §Å ñÊÂ¨Å¸û (Diet to be avoided)

§¸¡Æ¢ì¸È¢, Á½ý, ¿ñÎ, ¸ÕÅ¡Î (Hen meat, Fish, Crab, Dryfish)

§Å÷ì¸¼¨Ä (Ground nut [Arachis hypogaea])

±ûÙ (Sesame seeds [Sesamum indicum])

ÀôÀ¡ç¢ (Pappaya [Carica papaya])

«ýÉ¡º¢ (Pine Apple [Ananas comosus])

¿ø¦Ä ñ¦½ö (Gingelly oil)

Òç¢ôÒ ¦À¡Õû¸û (Products of sour taste)

±ÖÁ¢î¨º (Lemon [Citrus limon])

¾ì¸¡ç¢ (Tomato, Cape gooseberry [Physalis minima])

Òç¢ôÒ ¾Â¢÷, §Á¡÷ (Sour curd,butter-milk)

° Ú¸¡ö (Pickles)

¦À ñ §À¡¸õ(Sexual intercourse)

¦ÅüÈ¢¨Ä,À¡ì Ì (Betle leaves, Areca-nut)

Ò¨¸Â¢¨Ä (Tobacco)

ÁÐ «ÕóÐ¾ø (Alcohol)

ÁÕòÐÅ «È¢×¨Ã (Medical advice):

¯¼Ä¢ø §¿¡Â¡ø À¡¾¢ì¸ôÀð¼ @¼í¸ø¢ø ¦¸¡Îì¸ôÀð¼À¨º¨Â ¾¼Å¢ @ø ¦Åó¿¡Ã¢ø ¸ØÅ¢ Íò¾Á¡É ¦Åû¡¨¼¸¨ø «½¢óÐ à ö¨ÁÂ¡¸ @Õì¸ §Å ñ Îõ.

Affected body parts should be treated with the given paste, and it should be cleaned with luke warm water.

Clean and neat white dresses should be worn

NATIONAL INSTITUTE OF SIDDHA

AYOTHIDOSS PANDITHAR HOSPITAL

CHENNAI – 600 047.

POST - GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

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FORM VII - WITHDRAWAL FORM

1. SERIAL NO : ……

2.OP / IP NO: .....

3. NAME: …… 4.AGE: …… 5.GENDER: .....

6. DATE OF TRIAL COMMENCEMENT: ……...

7. DATE OF WITHDRAWAL FROM TRIAL: ……..

8. REASONS FOR WITHDRAWAL:

Long absence at reporting:	Yes/ No
Irregular treatment:	Yes/ No
Shift of locality:	Yes/No
Increase in severity of symptoms:	Yes/No
Development of severe adverse drug reactions:	Yes/No

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: Signature of the HOD

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FORM VIII - DRUG COMPLIANCE FORM

SERIAL NO:

PATIENT`S NAME:

DRUG NAME:PARANGICHAKKAI CHOORNAM

FOR OPD

On 1st day-Date: Drugs issued: (Gms) Drugs returned: (Gms)

On 8th day-Date: Drugs issued: (Gms) Drugs returned: (Gms)

On 16th day-Date: Drugs issued: (Gms) Drugs returned: (Gms)

On 24th day-Date: Drugs issued: (Gms) Drugs returned: Gms)

FOR IPD

Day	Date	Morning	Evening	Day	Date	Morning	Evening
Day 1				Day 2			
Day 3				Day 4			
Day 5				Day 6			
Day 7				Day 8			
Day 9				Day 10			
Day 11				Day 12			
Day 13				Day 14			
Day	Date	Morning	Evening	Day	Date	Morning	Evening
Day 15				Day 16			

Day 17				Day 18			
Day 19				Day 20			
Day 21				Day 22			
Day 23				Day 24			
Day 25				Day 26			
Day 27				Day 28			
Day 29				Day 30			

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: Signature of the HOD

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FORM IX - ADVERSE REACTION FORM

SERIAL NO:

OP/IP NO:

NAME:…… AGE: …… GENDER: ……..

DATE OF TRIAL COMMENCEMENT: ……

DESCRIPTION OF ADVERSE REACTION:

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: Signature of the HOD